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Missouri Medicine

Journal of the Missouri State Medical Association

January 1987

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Missouri Medicine

Vol. 84, No. 1 *Journal of the Missouri State Medical Association* January 1987

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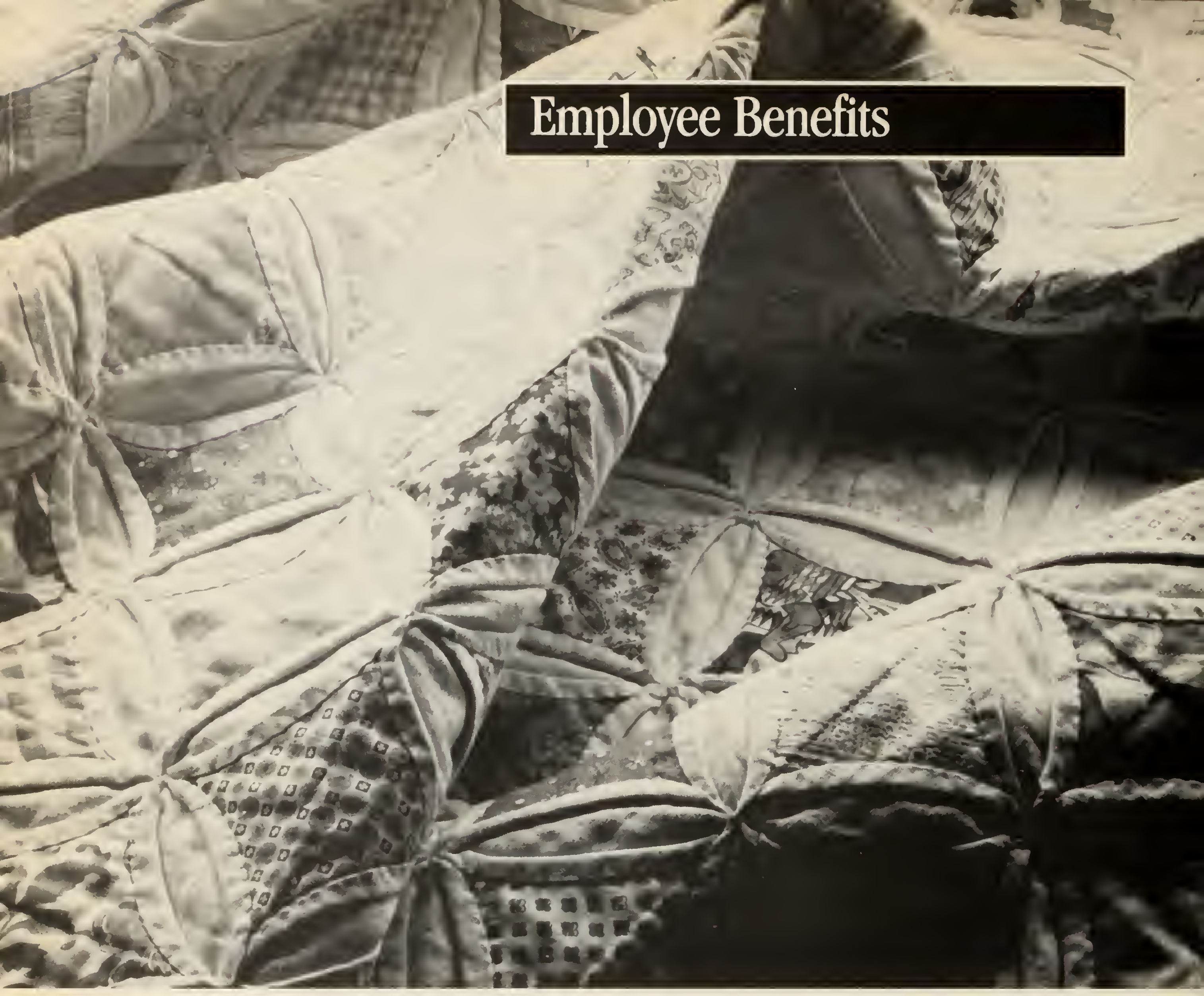

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CONTRAINDICATIONS: None.

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MSMA Progress Notes

Medicaid

Provider repayment deadline cut to 10 days

An emergency regulation filed by Missouri Medicaid officials cuts to 10 days the amount of time a provider has to refund Medicaid overpayments. Formerly, providers were given 30 days in which to refund overpayments.

According to Jane Y. Kruse, Director of Medical Services, Department of Social Services, the change was necessary because the federal government now requires the state to repay the federal portion of Medicaid overpayments within 60 days, regardless of whether individual providers have refunded the money. The new federal rules are included in the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA).

The state regulation also provides for the withholding of current Medicaid payments until the full amount of the overpayment is met. This form of recovery may take effect as soon as the 10-day deadline expires. Providers do have the option of proposing a repayment plan for amounts over $1,000. However, they must pay the first 60% of overpayment and the repayment plan is only for the remaining 40%. This must also be done within 10 days of notice of overpayment. The state agency then has 10 days to decide to accept or reject the plan. If no agreement is reached after 30 days, Medicaid may then take "appropriate action" to collect the balance of the amount due, according to the new regulation. ■

Conoyer selected for state board

Gov. John D. Ashcroft has appointed Dr. J. Michael Conoyer of St. Charles to the State Board of Registration for the Healing Arts.

Conoyer, 36, will serve on the board until Sept. 3, 1990. He replaces Dr. Linda Fisher, whose term expired.

Conoyer graduated from Southeast Missouri State College and from Vanderbilt University School of Medicine. He has a private practice in otolaryngology in St. Peters. He is a vice councilor in MSMA. ■

Office lab services claims update

Under a provision of the Consolidated Omnibus Budget Reconciliation Act (COBRA) physicians who perform office clinical laboratory services for Medicare patients must accept assignment starting January 1. If they don't, the services **won't be covered** by Medicare.

Failure to accept assignment for such services thus would make the patient responsible for the **entire bill.** The patient would receive no reimbursement from Medicare.

Under previous law hospital laboratories and independent clinical laboratories already have been required to assign all claims for clinical laboratory services. A Congressional proposal that would have delayed implementation of the physician office laboratory assignment was rejected by COBRA conferees. ■

Thoma reappointed to AMA committee

George E. Thoma, M.D., of St. Louis was reappointed to the AMA's Liaison Committee on Medical Education (LCME) for 1987. Dr. Thoma was also selected as co-chairman of Executive Committee for LCME. He is currently a professor of internal medicine and a professor of hospital and health administration at St. Louis University School of Medicine. Prior to his current duties Dr. Thoma served as the vice president of the St. Louis University Medical Center. ■

AMA visits group practices

The American Medical Association offers many activities and resources which are of value to group practices. AMA Officers and Trustees would like to make personal visits to group practices so they can describe what the AMA offers on behalf of physicians who practice in groups.

If you would like to arrange for an AMA Officer or Trustee to visit your group practice, please call or write Dolores Pavela, Director, Office of Officer Services, AMA, 535 N. Dearborn, Chicago, Illinois 60610, 312-645-4466. ■

Quick "PAR" decisions unfair according to AMA

The need for physicians to make almost immediate decisions as to whether to become participating or non-participating physicians under Medicare in 1987 raises serious constitutional questions, the AMA has cautioned HHS Secretary Otis R. Bowen, M.D.

In a letter hand delivered to Dr. Bowen, James H. Sammons, M.D., AMA Executive Vice President, strongly stated the case for delaying implementation of Section 9331 of the Omnibus Budget Reconciliation Act (OBRA) until carriers can provide physicians with all the information necessary for them to make informed decisions.

Earlier this month Dr. Sammons had conveyed the same concerns to William Roper, M.D., Administrator for the Health Care Financing Administration.

"The AMA believes that in requiring physicians to make decisions based on information that carriers have not provided, OBRA raises fundamental questions under the due-process clause of the Fifth Amendment," Dr. Sammons noted in the communication to Dr. Bowen. "Moreover, the confusion caused among physicians by OBRA is so pervasive that enforcement of the Act at this time would raise serious constitutional issues."

The letter stresses that physicians have not been provided with the information necessary to comply with complex new OBRA reimbursement provisions and that they have experienced great difficulty in "deciphering" the information they have received.

Without saying so directly, the AMA letter cites grounds for a potential lawsuit challenging the legality of any hasty implementation of Section 9331 provisions.

The AMA stated that enforcement of Section 9331 at this time would be unfair to physicians. It urges that the effective date be delayed until physicians have been provided with appropriate information. ■

Peer review protection

Antitrust laws clearly do not stand in the way of physician participation in hospital peer review activities carried out to identify and restrain incompetence in the provision of health care.

That position has been enunciated by the U.S. Office of the Assistant Attorney General in a formal communication to the AMA that was conveyed to members of AMA's House of Delegates by the Board of Trustees at the opening session of its meeting now in progress in Las Vegas.

The AMA received a letter from the Acting Assistant Attorney General of the United States in which the Department of Justice states unequivocally that peer review activities based on quality of care are pro-competitive and in no way violate the antitrust laws. As the Department's letter states:

"In closing, it bears repeating that the antitrust laws do not stand in the way of physicians' participation in hospital peer review conducted to identify and restrain incompetence in the provision of health care. To the contrary, because such peer review enhances both the quality and efficiency of the services delivered in our nation's hospitals to the benefits of consumers, it furthers the antitrust goal of fostering competition in the health care marketplace."

The AMA expresses its appreciation to Attorney General Edwin Meese III, and the Justice Department for their cooperation and hopes that the Department's letter will help to relieve the concerns of many physicians and thereby improve the effectiveness of the peer review process. ■

1987 medical issues

The health care field has become a prime interest of the public and, therefore, our legislators. Remember, it is vital that physicians understand the proposals affecting medicine, and relay their thoughts to their own state senators and representatives. If you are willing to get involved in this important area, contact MSMA immediately!

Some of the bills to be considered this year include:

- **Medical Malpractice** — An attempt to reduce the age of majority in malpractice cases from 21 to 18. Other changes may also be considered.
- **Medicaid** — Overall, physicians receive an average of 28% of billed charges from the Missouri Medicaid Program. The MSMA will strive to gain an additional $7 million to bring that figure up to at least 50% of billed charges.
- **R.N.s** — Registered Nurses will push for direct third-party reimbursement for services performed under their practice act. This could result in the independent practice of many R.N.s in competition with nurses.
- **Midwives** — Lay midwives have been active the past two years and have gained more support as OBs and Family Physicians have announced plans to quit delivering babies.
- **MedAssist** — A coalition has been formed to support enactment of a bill which would provide state-funded insurance for the state's uninsured and medically indigent. The plan would be funded through a one-cent sales tax.
- **Trauma centers** — This bill calls for a study and implementation of trauma center designations utilizing the recommendations of the American College of Surgeons. ■

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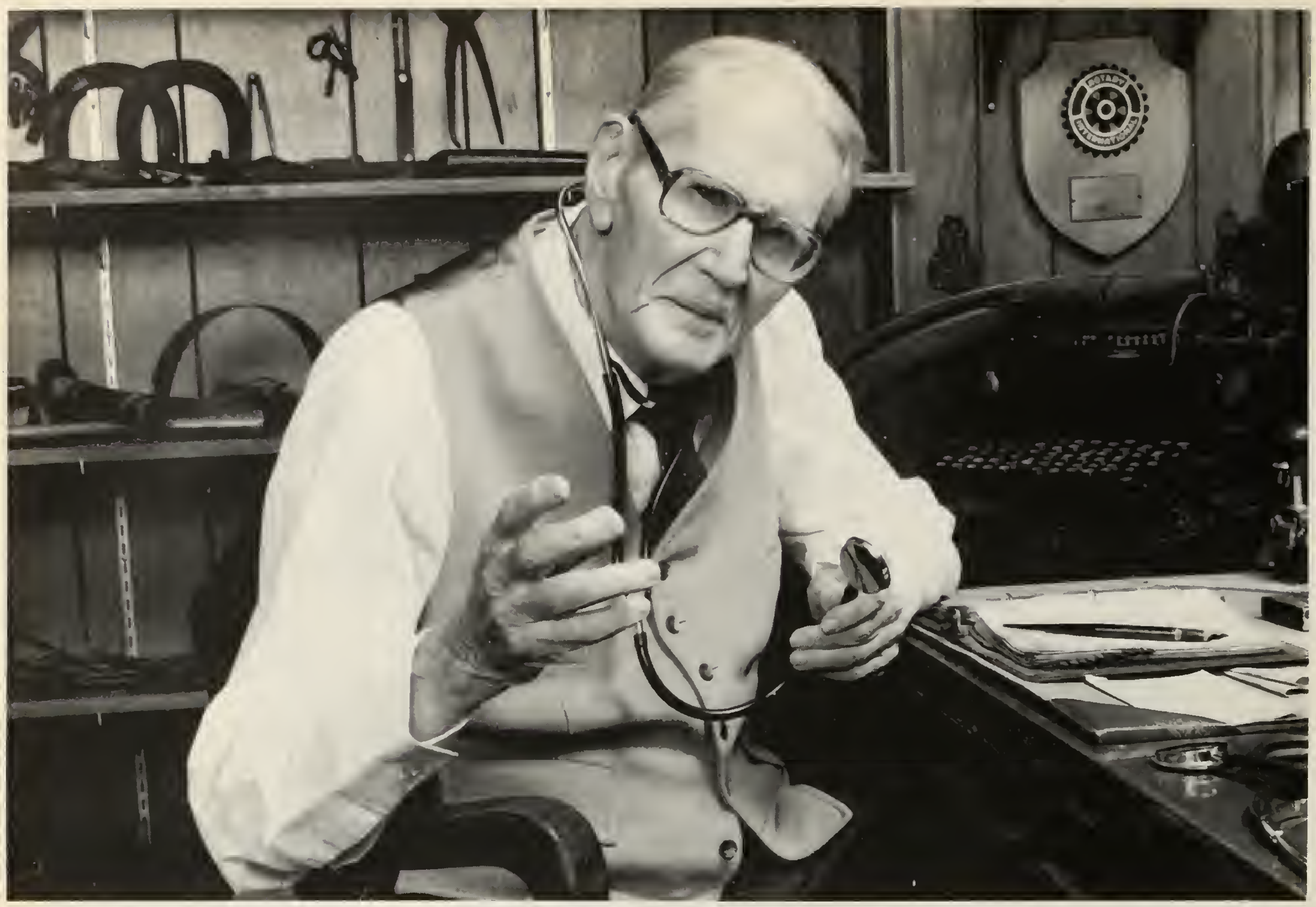

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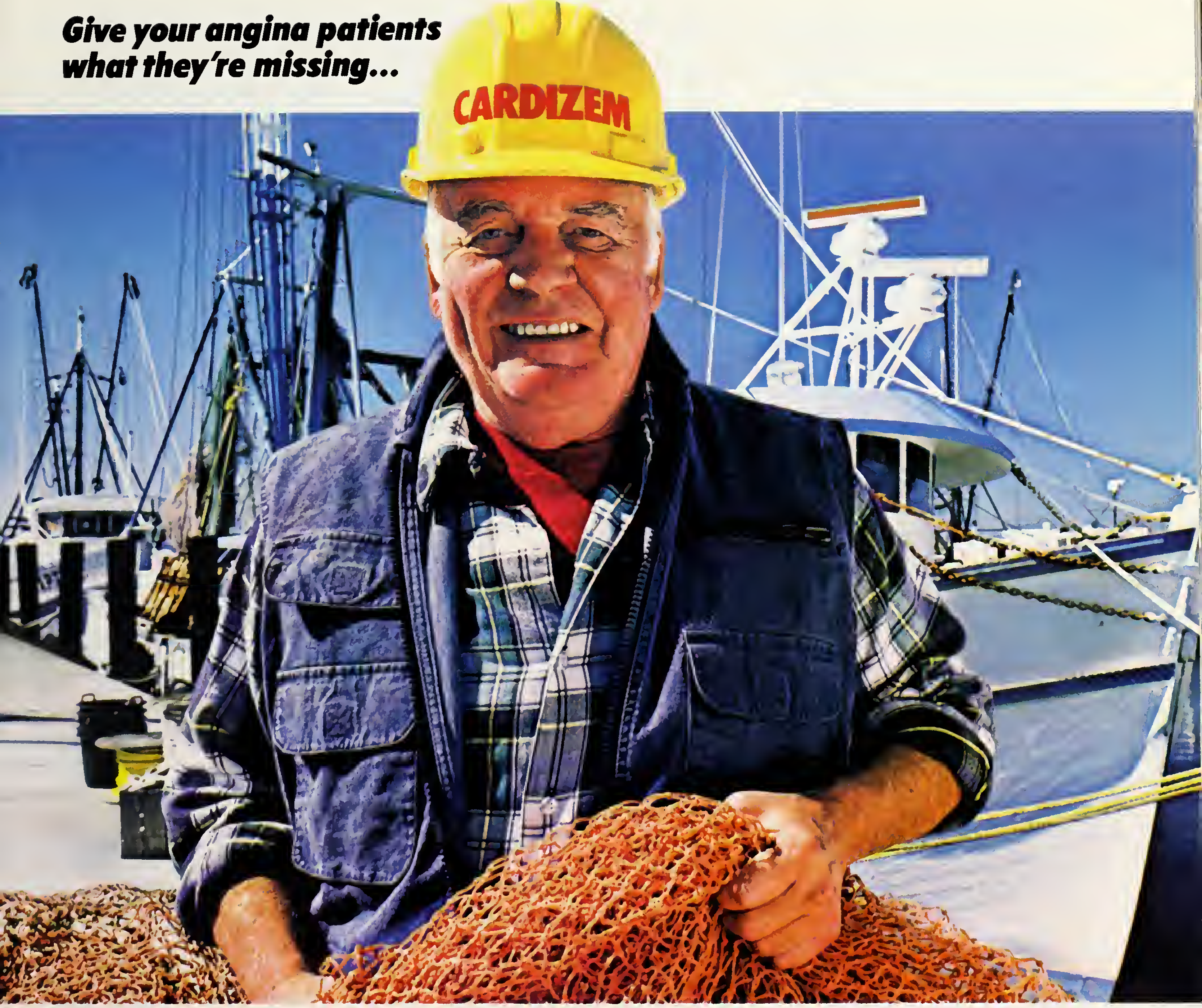

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Professional Use Information

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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%).

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. ***Issued 7/86***

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References: 1. Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347. **2.** Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159. **3.** Johnston DL, Lesaway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687. **4.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **5.** Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.

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Letters to the Editor

A correction and a compliment

Dear Dr. Burkey:

I am pleased that you reprinted my recent letter to Senator Danforth in the November issue *(page 721)*, but a correction is in order.

I am currently President of the Missouri Academy of Family Physicians rather than the American Academy of Family Physicians as you stated.

I would also like to make it perfectly clear that my letter was written as a doctor/citizen not as a spokesman for the Missouri Academy.

I would also like to take this opportunity to add insurance companies and public utilities to the groups I perceive as making enviable "sacrifices" under deregulation.

Let me take this opportunity to commend *Missouri Medicine* on your new format and for your efforts to involve our membership and other physician non-members.

In these troubling, uncertain, and changing times it is imperative that all physicians become "Proactive" for medicine and our patients.

Sincerely,
J. F. Fairchild, M.D.
Perryville, Mo.

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

As we enter 1987, let us review what has been said about our profession as well as the predictions for medicine's future.

The media and medicine

Freedom of speech is wonderful, but occasionally items we see in print, or hear on the radio or TV, stretch the limits of belief. Quite true — we live in an age of great change — but some recently published statements tend to raise our hackles. Several of them relate to the medical insurance carrier's main adversary, the surgeon.

- **An insurance company saves its clients $18 for every dollar spent on second opinions.** Considering all the money wasted by patients in my office on such folderol, it is hard to imagine the basis for such a pronouncement. If this much surgical expense is "saved" the insured, what is the cost of care to those patients in the months and years ahead for the substituted continuing medical care? And the corollary declaration:
- **In half of the cases, there is a medically acceptable alternative to surgery.** The implication is that medical care is good; surgical care is bad. So what is the morbidity and long term health effect on the patient denied surgery in favor of "medically acceptable" care?
- **Unnecessary surgery claimed 10,000 lives in a seven-year period recently.** Of course, the meaning of the qualifier "unnecessary" depends on the viewpoint of the observer. Based on these statistics, Missouri surgeons were kept busy, incidentally, snuffing out 250 lives unnecessarily during this time.

Then, as this new year begins, there are these wonderful predictions of the future:

- **A proposed marketing code would allow only one or two drugs available for each illness.** The implication is that our internists and family physicians prescribe too many and too expensive drugs with careless abandon. Serious minds of the World Health Assembly have proposed that we must settle back and be satisfied with more generic variations of what has been researched and developed until now. This might stagnate pharmaceutical advances in health care, but at least the PDR should shrink down to a managable size.
- **In 1990, 70% of doctors will be contractors in managed health delivery systems.** The grand medical planners can hardly wait until the physicians are no more than salaried pawns in the health game, but this seems to be pushing it a little fast.
- **By the mid 1990s, ten great national firms will provide 50% of medical care in this country.** There is a lot of corporate gobbling going to have to take place to form such billion dollar giants, but at least it should keep battalions of lawyers busy.
- **By the year 2000, high costs will have eliminated home care for the very old.** This matches other predictions of more home care in the future. Of course Representative Claude Pepper doesn't seem to think there are really any oldsters, so is there actually a problem?

Continued on page 50

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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Don't wait until '88 because if you are serious about becoming involved, you must start now.

Physicians and politicians: communication is the key

The elections are over, the makeup of the 84th Missouri General Assembly is known, and the leadership is being selected.

Many physicians were active politically in Participation '86, medicine's game plan for party politics. This was based on the success of Participation '84 and we now look forward to Participation '88. The theme is "don't wait until '88" because if you are serious about becoming involved, you must start now. Medicine's goal is to help each physician who seeks to sit as a delegate to the 1988 nominating conventions. If you don't get involved now, there is little chance of being elected a delegate to the 1988 national convention. Party politics — it is the quadrennial meeting of each party, and the parties run the conventions, so pick your party and support your candidate now.

Remember, there are several ways now to be your patient's advocate in Jefferson City. It will be increasingly important since the federal government is shifting more decisions in health care to the states, such as who will practice medicine, how it will be practiced, and how one receives payment.

Each Missouri legislator should have a Key Contact from MSMA. Weekly updates of legislative activities are sent to the Key Contact, giving the physician a knowledgeable background to use in communicating medicine's posture on medically-related bills. If you are not a Key Contact person and would like to be, notify the MSMA office immediately.

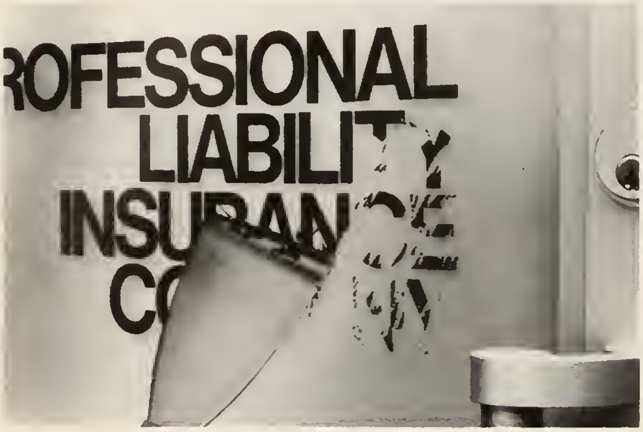
A second excellent way to be your patient's advocate in Jefferson City is the Physician Involvement Program (PIP). Each week 8-10 physicians gather for coffee and donuts at the MSMA office at 8:30, receive a briefing of the day's legislative activities, followed by a visit to the hill and personal talks with your senator or representative about important legislation. It would be excellent if in advance you have made arrangements to take your legislator to lunch or dinner.

The Missouri Academy of Family Practice has their Doctor for the Day program again, and this helps medicine's public image tremendously.

For the first time in years, Missouri has a doctor in the House — Dr. Tommy Macdonnell — longtime MSMA delegate from Webster County, current Vice-President of MSMA, and newly-elected representative of the 140th District from Marshfield. Congratulations to Dr. Tommy! He joins a long line of physicians who have sacrificed their personal lives and fortunes

Continued on page 50

In ten years your malpractice carrier may be just a memory.



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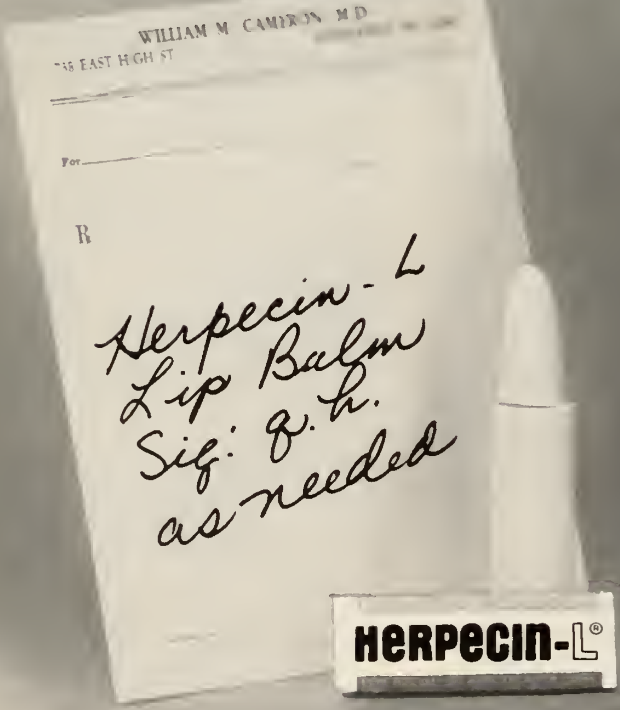

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Auxiliary Message

by Pattye Barbee
MSMA Auxiliary
Legislative Chairman

Physicians, your Auxiliary invites you to join your spouse in Jefferson City on March 3 for our annual "Day at the Legislature." Contact your legislators now so that they will join all of us for this important event.

Physicians and politics: March 3 is a day to remember

Beginning with the 1400 physicians who served their country during the Revolutionary War, thousands more have contributed to government on all levels to insure the endurance of America.

Five physicians signed the Declaration of Independence, and two signed the Constitution. There have been at least two physician members in the U.S. Congress every year since 1774, with the total number nearing 400. Twenty-two physicians have served their states as governors, six have been members of the Cabinet, and one was a member of the Supreme Court. Scores of physicians have been active in government on state and local levels, including legislators, judges, and sheriffs.

Eleven physicians from Missouri have been elected to the U.S. Congress, and one, Alexander Monroe Dockery, M.D., also was Governor of Missouri from 1901-1905.

Concerned physicians and their families continue in their dedication to the public good. In the November 1985 election, one physician and two physician spouses won seats in Congress; a physician spouse was named Governor of Vermont; and a physician was elected Lt. Governor of Kansas.

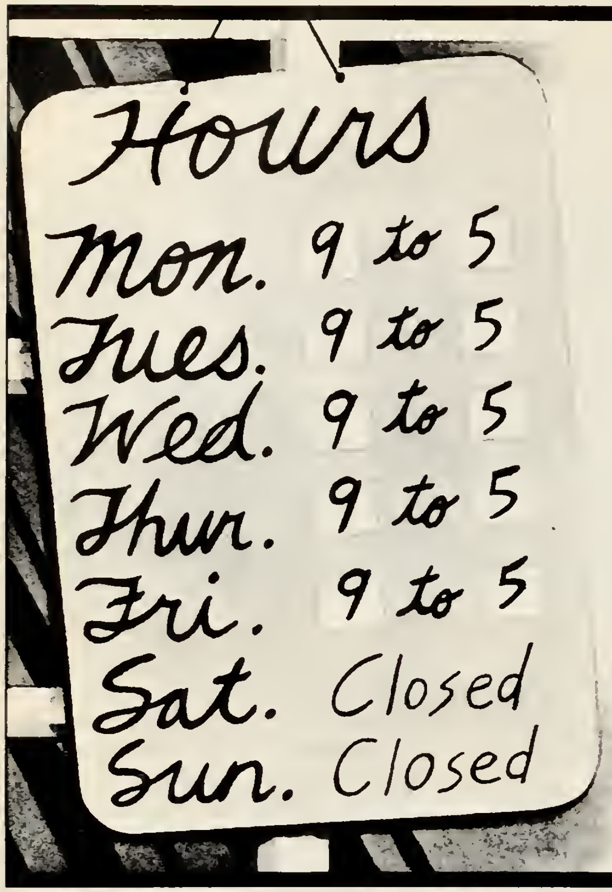
However, the medical community had the opportunity to fare much better. Unfortunately, seven seats in Congress were not won by the physicians who sought them, and two state offices were lost by physician spouses — secretary of state in Kansas and governor in Nevada.

On the state level in Missouri, medical families continue to show their willingness to share their busy lives and to take on the responsibility of public office. Mary Kasten of Cape Girardeau returns to serve her third term as the representative from District 159. Both her husband, Melvin, and her son, Mark, are practicing physicians. Tim Kelley of Savannah, representing District 6 for the third term, and his brother Pat Kelley, first-term representative of District 48 in Lee's Summit, are sons of Gilbert Kelley, M.D., a family practitioner in Savannah. One physician was elected to the legislature: Thomas M. Macdonnell, M.D., of Marshfield captured the seat of the 140th District.

All across Missouri, many physicians and physician spouses were successful in local elections, and many serve their communities on a variety of panels and commissions.

Of course, one does not need actually to serve an elected or an appointed seat in order to participate in the legislative process. As the profession faces more and more complex and

Continued on page 50



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PRACTICE MANAGEMENT

by George S. Conomikes

Are you being supervised by the people you employ? Establish daily control of your practice with two minutes of communication.

Daily 2-minute meeting keeps doctor in charge

Starting the day right may be the most difficult problem facing today's physician. Even if he gets up and out of the house on time (a minor miracle for some), he still faces the problem of getting through hospital rounds and, assuming no surgery, getting to the office on time.

The obstacles faced are no less than those of a halfback trying to pierce the great Los Angeles Rams' defensive line: parking, hospital elevators, nursing personnel, missing medical data, colleague interruptions, hospital administrators — and — the hospital coffee shop.

The coffee shop is the harem of the practicing physician. Here he finds out what's happening. Some have been seduced into the "coffee shop syndrome," lolling around with other members (and seducers) of the medical fraternity. Beware the coffee shop syndrome — used too frequently the coffee shop may be injurious to the health of your office practice!

Now, if you multiply the above set of problems by the number of hospitals you attend, you've got a real problem. *General solution:* Don't involve yourself in more than two hospitals, if possible.

Assuming you are delayed at the hospital for whatever reason, you owe it to yourself, your office staff and your patients to call in and let them know of your delays. Alert office personnel will be able to do some fast rescheduling for you so your office load will be easier to handle. If not, you will arrive too late — reception room overloaded with anxious (and angry) patients, tensed-up staff and an unhappy doctor.

Whether you're late or on time, a great solution to starting your office day right is the 2-minute meeting. I picked up this idea a few years ago from a West Coast group of physicians. As one of them said at the time, most doctors go to their offices, take off their coats, put on a uniform and are told where to start working: "Doctor, patient X is in examining room 1." At the end of 2, 3, or 4 hours the doctor is told there are no more patients.

He may not be aware that he is actually being supervised by the very people whom he hires and employs!

If he arrives at the office late, there is an air of urgency. He knows only that he is going to have to work fast, hard and furious — and so are his aides.

Most important is the need for the physician to establish daily control of his practice, his people. The vehicle I recommend you consider for daily control is the 2-minute meeting.

- **What is the 2-minute meeting?** It's a stand-up meeting between the physician, his back office nurse and, if possible, his receptionist.

Continued on page 50

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Special Article

Coronary Artery Bypass: Missouri's Experience

A Case Study in the Public Release of Sensitive Data

Mohammad N. Akhter, M.D., M.P.H.
Dan Jaco, M.S.P.H.
Susan Elder, M.A.

More than 2,000 coronary artery bypass procedures are performed on Medicare patients in 22 centers in the state of Missouri each year. Moreover, angioplasty (percutaneous transluminal coronary angioplasty) has been applied increasingly during the past five years, resulting in great interest among the public and the medical community regarding these procedures. Several new centers are being established, despite the debate in the medical community regarding long-term survival rates of patients who have undergone coronary bypass surgery as compared with medical management.

Payors are equally concerned with the cost of these procedures. The average hospital bill for coronary artery bypass surgery is $20,000. Because of its recent interest in consumer education, the Health Care Financing Administration (HCFA) has by regulation mandated hospital-specific aggregate Medicare data be released to the public upon request. Last month, data on mortality from coronary artery bypass surgery were made public for all 22 centers in Missouri. In this article, we will review the major controversy on the release of raw data and its implications for physicians, hospitals, and patients.

Dr. Akhter is president, Mr. Jaco is deputy director of operations, and Ms. Elder is the research analyst for the Missouri Patient Care Review Foundation, 311 Ellis Blvd., Jefferson City, MO 65101.

Material and Method

All Medicare paid claims for the 22 hospitals in the study for DRG 106-107 (coronary artery bypass) were included in the study. Since there may be a lag of as much as a year between the patient's undergoing the surgical procedure and the hospital's submitting the bill or having the bill processed, there may be some difference in the number of cases reported in this study and the actual number of procedures performed at each hospital. The data reflect a period of 18 months, from January 1, 1985, through June 30, 1986. Accrued death rates were then computed for each of the 22 centers, and the information was mailed to all hospitals involved for review and comment prior to public release.

Considerable interaction occurred between Foundation staff and representatives from most of the institutions involved. Personal discussions, meetings, and submission of written responses by physicians and hospitals accompanied the release of the information to the public. While physicians and hospitals generally were reluctant to release this information to the public, they

Table 1

Mortality Rates for Coronary Bypass Procedures by Hospital
With Adjustments for Age and Sex of Patient Population

Provider Number	*Provider Name*	*Cases*	*Deaths*	*Unadjusted Mortality Rate*	*Direct Adjusted Rate*	*Expected Mortality Rate*	*SMR*
260001	St. John's Medical Center-Joplin	149	15	10.0%	13.2%	7.4%	1.36
260014	Barnes Hospital-St. Louis	306	24	7.8%	7.7%	7.7%	1.01
260020	St. John's Mercy Medical Center-St. Louis	105	10	9.5%	7.2%	7.9%	1.20
260027	Research Medical Center-Kansas City	48	6	12.5%	15.2%	7.4%	1.68
260031	Trinity Lutheran Hospital-Kansas City	82	8	9.7%	8.7%	7.1%	1.38
260032	Jewish Hospital of St. Louis	179	14	7.8%	7.4%	8.0%	.98
260040	Lester E. Cox Medical Center-Springfield	71	4	5.6%	5.0%	7.0%	.81
260065	St. John's Regional Health Center-Springfield	294	20	6.8%	6.3%	7.3%	.94
260068	Boone Hospital Center-Columbia	241	13	5.3%	4.7%	7.9%	.69
260081	St. Joseph Hospital-Kirkwood (St. Louis)	39	0	0.0%	0.0%	7.3%	.00
260085	St. Joseph Hospital of Kansas City	12	1	8.3%	2.5%	6.3%	1.32
260091	St. Mary's Health Center-Richmond Heights-St. Louis	80	9	11.2%	11.6%	6.2%	1.46
260104	DePaul Health Center-St. Louis	113	5	4.4%	4.2%	7.4%	.60
260105	St. Louis University Hospital-St. Louis	195	24	12.3%	13.7%	7.1%	1.74
260107	Baptist Medical Center-Kansas City	34	5	14.7%	14.9%	8.7%	1.86
260108	Missouri Baptist Hospital-St. Louis	186	5	2.6%	2.2%	8.1%	.33
260110	Southeast Missouri Hospital-Cape Girardeau	87	5	5.7%	5.1%	7.5%	.76
260112	Menorah Medical Center-Kansas City	50	4	8.0%	11.5%	8.0%	1.00
260138	St. Luke's Hospital of Kansas City	346	39	11.2%	11.5%	7.5%	1.51
260141	University of Missouri Medical Center-Columbia	128	7	5.4%	6.0%	7.0%	.78
260179	St. Luke's Hospital-St. Louis	136	5	3.6%	4.4%	7.3%	.50
260180	Christian Hospital Northeast-St. Louis	161	6	3.7%	3.9%	7.5%	.50
	State	3,042	229	7.5%	—	—	—

NOTES ON THE CALCULATED STATISTICS

Direct Adjusted Rate: Adjusts for differences in age and sex distribution of patients in each facility by using the statewide distribution of Medicare coronary bypass patients as the standard population. May be somewhat unreliable where the number of cases is small, producing unstable age/sex specific rates. Reflects what the mortality rate would be if the facility's patients had the same age and sex distribution as the statewide patient population.

Expected Mortality Rate: This rate is based on the indirect method of age/sex adjustment. The method yields a number of "expected" deaths by applying the age/sex specific rates of the standard population (i.e., in this case, the statewide Medicare population for coronary bypass procedure) to the patient population in each facility.

SMR — Standardized Mortality Ratio:

$$\text{Where SMR} = \frac{\text{total observed deaths in a population}}{\text{total expected deaths in that population}}$$

If the SMR is greater than 1, it means that more deaths are observed in the facility than would be expected based on rates in the standard (statewide) population. If the ratio is less than 1, fewer deaths are observed than expected.

were quite eager to discuss their own findings, insights, and other salient features of their programs with the Foundation.

Table 1 outlines the death rate for each of the 22 hospitals in the state. The overall mortality rate is 7.5%; this is 50% higher than the national average (5.2%).

Based on the statewide data, males are about two times more likely than females to undergo coronary bypass surgery. However, females tend to experience a higher mortality rate (Table 2). As one would expect, the mortality rate increases with age (Table 3). However, male patients age 85 and older fared better than those age 75 to 84. In contrast, male Medicare patients under 65 had somewhat higher mortality rates than those in the 65 to 69 age category.

When the statewide data are examined by age within sex categories, there continues to be considerable variation (Tables 4a and 4b). The mortality rate for female patients tends to be higher than that for male patients; this pattern holds across all age categories, with the exception of the 70-74 age groups where the mortality rate is approximately the same.

Data released by HCFA, as well as by the California Medical Review Incorporated (peer review organization in California), earlier in the year, suggested an inverse relationship between the mortality rate and the volume of procedures performed by an institution. In Missouri, however, there was wide variation, from 0% to 14.6%, among the state's hospitals, which cannot be explained solely on the basis of the number of surgical procedures performed. The hospital performing the most procedures in the state revealed a death rate 1.5 times the state average. On the other hand, one of the hospitals performing fewer procedures has a death rate of 0%.

Table 2

Mortality Rates for Coronary Artery Bypass Surgery
for Medicare Patients
Missouri 1985-86

	Cases	Deaths	Percent Death Rate
Male	2,015 (66%)	138 (60%)	6.8%
Female	1,027 (34%)	91 (40%)	8.9%
Total	3,042 (100%)	229 (100%)	7.5%

Table 3

Age-Specific
Coronary Artery Bypass Mortality Rates
For Medicare Patients
Missouri 1985-86

Age	Number of Cases	Deaths	Percent
<65	356	22	6.2%
65-69	1,073	59	5.5%
70-74	938	67	7.1%
75-79	509	58	11.4%
80-84	142	21	14.8%
>84	24	2	8.3%
Total	3,042	229	7.5%

Table 4a

Age-Specific
Coronary Artery Bypass Mortality Rates
For Medicare Patients (Males)
Missouri 1985-86

Age	Number of Cases	Deaths	Percent
<65	281	16	5.7%
65-69	749	32	4.3%
70-74	595	43	7.2%
75-79	307	38	12.4%
80-84	69	9	13.0%
>84	14	0	0.0%
Total	2,015	138	6.8%

Table 4b

Age-Specific
Coronary Artery Bypass Mortality Rates
For Medicare Patients (Females)
Missouri 1985-86

Age	Number of Cases	Deaths	Percent
<65	75	6	8.0%
65-69	324	27	8.3%
70-74	343	24	7.0%
75-79	202	20	9.9%
80-84	73	12	16.4%
>84	10	2	20.0%
Total	1,027	91	8.9%

Comparing areas of the state, Kansas City area hospitals yielded the highest average accrued death rates, i.e., 11%. On the other hand, death rates for St. Louis area hospitals were slightly below the state average. About one half of the total procedures were performed in the St. Louis area, with a third in out-state Missouri and the remaining procedures performed in Kansas City. Table 5 outlines the number of cases in each of the three areas of the state as well as the accrued death rates.

Discussion

Concerned with release to the public of hospital-specific data on coronary bypass surgery, the Society of Thoracic Surgeons issued in October of this year a statement identifying the major risk factors which should be considered in the review of bypass mortality statistics. Table 6 outlines the statement made by the Society's Committee on Standards and Ethics.

When the unadjusted data were submitted to the hospitals and physicians for their review, they identified several areas of concern, including but not limited to the following:

- "The DRG assignment of 106-107 for coronary bypass does not make any provision for other major cardiac procedures such as valve replacement, ascending aortic aneurysm, resection, or others that may have been performed along with the coronary artery bypass procedure. The death rate is generally higher when bypass procedure is combined with other major cardiac procedures."
- "Publishing death rates based on performance of the procedure without taking into consideration emergency procedures performed does not provide a fair comparison. The death rate for emergency procedures is usually higher than for those performed on an elective basis."
- "Strictly using discharge-related procedures does not take into consideration the severity of illness at the time of admission in determination of risk factors such as patients with left main branch stenosis, patients above the age of 70, the preponderance of female patients, or the presence of acute myocardial infarction at the time of the operative procedures. These are all well-known risk factors which increase the chance of operative mortality, and nevertheless have been judged by members of the cardiovascular staff as patients requiring surgical intervention."
- "Patients at this hospital were

Table 5

Areawide Death Rates
Missouri 1985-86

Area	*Number of Cases*	*Deaths*	*Percent*
St. Louis	1,500	102	6.8%
Kansas City	572	63	11.0%
Out-State Missouri	970	64	6.6%
Total Statewide	3,042	229	7.5%

Table 7

Operative Mortality By Year For Isolated Coronary Bypass Grafting at St. Louis University Hospitals
1970-86

Year	**No. of Operations**	**Deaths (%)**
1970	38	4 (10.5)
1971	174	6 (4.3)
1972	146	3 (2.1)
1973	173	7 (4.1)
1974	173	3 (1.7)
1975	253	6 (2.4)
1976	385	8 (2.0)
1977	391	4 (1.0)
1978	474	11 (2.3)
1979	589	11 (1.9)
1980	715	12 (1.7)
1981	772	26 (3.4)
1982	739	21 (2.8)
1983	852	24 (2.8)
1984	706	20 (4.5)
1985	582	34 (7.9)
1986	212	12 (8.5)

Table 6

The Society of Thoracic Surgeons
Statement of Concern*
October 19, 1986

One of the effects of public distribution of raw statistics relating to coronary artery surgery is an incorrect perception of the quality of care in certain communities.

Inappropriate extrapolation from an inadequate sample size adds to these misconceptions and may lead to erroneous conclusions.

These perceptions may adversely affect the care of the high risk cardiac patient.

There is an evolving change in the selection of patients for surgical management.

- Good risk patients are now undergoing balloon angioplasty.
- Patients with acute myocardial infarction are receiving interventional care consisting of angiography, thrombolytic therapy, and balloon angioplasty. Patients who become candidates for urgent surgical treatment from this group are at high risk.
- Some of the major risk factors of coronary artery surgery which are increasing include:
  1. advanced age
  2. reoperation
  3. emergency operation
  4. associated diseases

The use of limited raw mortality data pertaining to a specific high risk age group should not be used as the only index of the quality of care. To adequately interpret the quality of care, the entire spectrum of care must be considered.

* *Prepared by the Committee on Standards and Ethics*

in higher risk categories. Consequently, these patients were deemed to have greater than average mortality risks relative to other programs throughout the state and country. The hospital and its medical staff are concerned that data did not reflect patients' severity of illness and that release of such information to the public might have an adverse effect on the availability of coronary bypass procedures performed in some hospitals because by implication, some patients in high-risk categories could be denied the benefit of this procedure in the future."

The Missouri Patient Care Review Foundation, like hospitals and physicians, was concerned that raw data would be disseminated to the lay public without in-depth explanation of the clinical variables such as age, previous surgical procedures, severity of illness at the time of admission, as well as other associated medical conditions. Confusion and false interpretation of data by the public would make it difficult not only for the hospitals and physicians but also for the Foundation to provide meaningful information. For that reason, the Foundation held a press conference and issued a release in an attempt to clarify the appropriate use of the data. The St. Louis and Kansas City media extensively covered the story. Physicians and hospitals responded effectively. To date, publication of this information has achieved our goal of enlightening, not alarming the public.

Conclusion

Despite the problems identified by hospitals and physicians, there are certain basic conclusions that one could draw from this very raw data, along with the information provided from various hospitals. Review of data from the St. Louis University Medical Center, as well as information from Mid-America Thoracic and Cardiovascular Institute at St. Luke's Hospital in Kansas City, indicates that compared with 1975, the 1985 death rate is higher because the severity of illness at the time of admission is far greater in 1985 than what it was in 1975 (Table 7). Most of the patients with single or double vessel disease are removed from the surgically treated group by successful percutaneous angioplasty. The remaining patients are those either with multiple vessel disease or other complicating conditions who are sent to the institutions for surgery. Obviously, these patients have higher than normal probability of death.

Bypass surgery is no longer performed almost exclusively for angina pectoris where the indication for urgency is unstable angina. Urgency for the surgery is now based upon either complications arising from percutaneous angioplasty or other associated cardiac problems that necessitate immediate intervention. In that regard, it seems that most surgery for cardiac revascularization is becoming emergency surgery and the surgery of last resort. Circumstances under which cardiac surgery is often performed are not quite those of multiple severe trauma or a major surgical problem but are based on the urging of the referring physician and the patient's informed decision to accept great risk, which puts enormous pressure on the surgeons who deal with the desperately ill. Discussions with salaried physicians at the university and those in private practice indicate both are under similar pressures to help these patients where the family and patient are willing to take the risk, even when the outcome satisfactory to the surgeons may be less than 5%.

The criteria for doing coronary artery bypass surgery are well understood. What is difficult to establish are criteria which contraindicate surgery. It becomes, therefore, important that each hospital establish its own committee to review such desperately ill patients and provide guidance to the operating surgeon. Missouri's unadjusted Medicare death rate for bypass surgery is 50% higher than the national average. While one can argue the merits of such a statistic, it would be foolish to ignore it.

It is important to all physicians, particularly those involved in cardiac surgery programs, to evaluate and investigate the reasons for this high death rate while at the same time assuring that the surgical procedure is available to all who need it. Moreover, we should do so with utmost care and preparation so that there is no reason for the institutions with higher death rates (as long as the reasons are well understood and they have valid explanations) to be inappropriately discouraged from providing such services in the future.

Analysis within each institution of all the cases should be performed to evaluate the performance of their physicians. The variation among the hospitals' death rates is hard to explain when a hospital has approximately three times the death rate of the national average. It is therefore important for those hospitals to conduct in-depth analysis (and in fact some of them already have done so) and to understand thoroughly the reasons for the higher rate.

Practicing physicians in Missouri should recognize the trend toward disclosure of health data. Realize that patients will be increasingly vocal, if not skeptical, about referral to one of these institutions. Physicians need to begin asking similar questions of the institutions to which their patients are referred. In the past, there has been too little demand by physicians for quality and outcome data on those institutions to which patients are referred for a major procedure. Yet, physicians must became more active in this process to assure both that their patients receive the best possible care and to evaluate the risks and benefits of the surgery prior to referral.

Conservative Management of Ectopic Gestations

A Surgical Alternative

Gregory C. Starks, M.D., and Elwyn M. Grimes, M.D.
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With the advent of microsurgical technique, more sensitive pregnancy tests, and pelvic ultrasound, the management of tubal pregnancy is no longer limited to salpingectomy. The authors report on their experience with 31 ectopic pregnancies. Follow-up indicates that 57% of the patients had subsequent normal pregnancies.

In approximately 1% to 2% of all pregnancies, implantation occurs in an ectopic location, usually within the fallopian tube. If undetected, the abnormally located gestation will either abort through the infundibulum of the fallopian tube or rupture through its wall. In most instances, the outcome of this event is excessive intra-abdominal hemorrhage, hypovolemic shock, destruction of the oviduct, and loss of fertility. Approximately one-third of these women are nulliparous, and 50% will subsequently be unable to conceive.

Due to an increased emphasis on the maintenance of fertility and conservation of reproductive organs, one highly controversial area is the surgical management of the fallopian tube that contains an ectopic gestation. In order to justify conservative surgery, it is necessary to establish the potential for normal function of that tube. We present data on the conservative management of ectopic gestations with an emphasis on tubal conservation and examine pregnancy outcome with a discussion on new approaches to maximize future fertility.

Materials and Methods

A five-year (1979-1984) retrospective analysis of 550 infertility cases from the Division of Reproductive Endocrinology and Infertility, University of Missouri-Kansas City, revealed 31 cases (6%) of ectopic gestations that had undergone conservative surgical management. All patients were reviewed for age, parity, previous contraceptive usage, previous tubal or abdominal surgery, history of pelvic infections, and prior diagnoses of infertility.

Preoperatively, each patient underwent a complete history and physical examination, pelvic examination, measurement of qualitative serum Human Chorionic Gonadotropin (HCG), and pelvic ultrasound. Laparoscopic confirmation of 31 unruptured ectopic pregnancies was performed on all patients prior to conservative tubal surgery. Pre- and postoperative intravenous antibiotics as well as intraoperative Dextran (200 ml. 32% Dextran 70, Pharmocia, Piscataway, NJ) were given to all patients. There were no intraoperative or postoperative com-

Table 1

Demographic Data

Age	
Mean	- 29.6 ± - 45 years
Range	- 23 - 38 years
Gravidity	
G_0	23 (74.1%)
G_1 or >	8 (25.9%)
Weeks of Gestation (N = 15)	
Mean	- 7.2 ± 0.2 weeks
Range	- 4 - 12 weeks

Table 2

Predisposing Factors for Ectopic Gestations

(N = 31)	
Endometriosis	8 (25.8%)
Previous Tubal Surgery	10 (32.2%)
Pelvic Inflammatory Disease	5 (16.1%)
Previous IUD	1 (3.2%)
No predisposing factors	5 (16.1%)
Oligospermia	2 (6.4%)

N = total number of patients

Table 3

Conservative Microsurgical Procedures (N = 31)

Linear Salpingostomies	19[a] (61.2%)
Reanastomosis	8 (25.8%)
Reimplantation	2 (6.4%)
Fimbrioplasty	1 (3.2%)
Ovarian Wedge Resection	1 (3.2%)

N = total number of patients
a = five patients had laser salpingostomies

Table 4

Conservative Surgery for Ectopic Pregnancy: Intrauterine Pregnancies Correlated with Procedure

(N = 11)	
Linear Salpingostomy	4[b] (36.3%)
Isthmic Reanastomosis	6 (54.5%)
Cornual reimplantation	1 (9%)
Ovarian wedge resection[a]	0
Fimbrioplasty[a]	0

N = total number of intrauterine pregnancies
a = patient follow-up less than six months
b = two patients had laser salpingostomies

Table 5

Conservative Management of Ectopic Pregnancy: Reproductive outcome for ectopic pregnancy in the sole patent oviduct (N = 8)

No. of Intrauterine Pregnancies	4 (50%)
No. of Recurrent Ectopic Pregnanices	2 (25%)
No. with Persistent Infertility	2 (25%)

N = total number of patients

Table 6

Conservative Management of Ectopic Pregnancy: Pregnancy Rate (N = 15)

No. of Intrauterine Pregnancies	12/31(38%)
No. Recurrent Ectopic Pregnancies	3/31(10%)
No. Not Attempting Pregnancy	10/31(32%)
Correct Pregnancy Rate	12/21(57%)

N = total number of pregnancies

plications or transfusions.

Four months postoperatively, 31 patients underwent hysterosalpingography using water-soluble contrast media. The average follow-up has been 20 months (range six months to five years).

Results

As shown in Table 1, the mean age for the study population was 29.6 ± .45 years, with a range of 23 to 38 years. Twenty-three patients (74%) were nulligravidas, and the remaining eight patients (26%) had had a previous ectopic pregnancy. At the time of diagnosis, the mean weeks of gestation was 7.2 ± 0.2 weeks, with a range of four to 12 weeks (Table 1).

Predisposing factors for ectopic gestations are shown in Table 2. Previous tubal surgery (32%) was the most commonly found etiologic factor with endometriosis (26%), pelvic inflammatory disease (16%), and absent predisposing factors (16%) constituting the remainder. Nineteen patients (61%) had linear salpingostomies performed, eight patients (26%) primary excision with reanastomosis, and two patients (6%) underwent excision with reimplantation (Table 3). Of the remaining two patients, one underwent a fimbrioplasty, and the other an ovarian wedge resection with microsurgical repair, respectively. Five patients (16%) had laser salpingostomies as primary therapy.

As shown in Table 4, six (55%) of the subsequent intrauterine pregnancies occurred in the reanastomosis group, four (36%) in the salpingostomy group, and one (9%) in the implantation group. Laser salpingostomies were performed in five of 19 patients with ampullary ectopic pregnancies. Two of the four subsequent intrauterine pregnancies occurred in that subgroup.

Table 5 indicates patients with a sole patent oviduct after conservative management of a previous ectopic gestation (26%). Four patients (50%) subsequently conceived intrauterine pregnancies. Two patients (25%) had a repeat ectopic pregnancy, and the other two (25%) had persistent infertility. Overall, 38% of our study group achieved an intrauterine pregnancy (Table 6) and 10% sustained a recurrent ectopic pregnancy. The corrected pregnancy rate was 57%.

Discussion

In recent years, various studies[1-3] have indicated an increased rate of ectopic pregnancies. During the period 1965 to 1977, the incidence of ectopic gestations tripled in the United States.[1] This increased incidence, coupled with earlier diagnosis and heightened interest in retaining reproductive function, has made conservative surgery of the ectopic pregnancy a desirable goal.

With the introduction of the sensitive, more specific pregnancy test (beta sub-unit of HCG), pelvic ultrasound, and increased utilization of diagnostic laparoscopy, the frequency of ruptured ectopic pregnancy has decreased significantly.[4] Bukovsky et al[5] performed conservative surgery for tubal pregnancy on 23 patients. Seventy percent of their study population successfully conceived, with 55% achieving a live birth and 5% experiencing a repeat ectopic rate of 8%.

In this study, we conservatively managed 31 unruptured ectopic gestations. Eight patients (26%) had a history of prior ectopic pregnancy and had only a single fallopian tube present at the time of the conservative surgical procedure. Etiologically, the 32% were found to have a history of previous tubal surgery as the most common predisposing factor. Endometriosis (26%) constituted the second largest risk group. Of our study group, 61% were treated with linear salpingostomies, 26% with primary reanastomosis, and 6% with reimplantation. Twelve intrauterine pregnancies (38%) resulted, with three repeat ectopic gestations (10%). The corrected pregnancy rate was 57%.

This study supports the data of several recent authors,[6-8] which indicated an improved pregnancy rate of 40% to 50% with a repeat ectopic pregnancy rate of 10% (Table 7). We also confirmed that the majority of ectopic gestations are in the distal half of the fallopian tube (90%), thus enhancing the ability to perform a conservative procedure. Additionally, we found, as reported by Decherney,[9] that patients who had undergone a previous conservative ectopic surgical procedure were still good candidates for a repeat procedure, with expectations of improved reproductive performance (50% intrauterine pregnancy rate). Through the use of microsurgical techniques and improved diagnostic capabilities, these data are a significant improvement over pre-microsurgical studies.

Laser salpingostomies were performed in five of 19 patients with ampullary ectopic pregnancies. Two of the four subsequent intrauterine pregnancies occurred in this subgroup, suggesting that laser surgery may offer some additional advantages in tubal healing and repair.[10]

This report lends support to the concept that tubal conservation for ectopic pregnancy is technically possible and safe. In fact, if tubal pregnancy recurs, conservative surgery is still an alternative to be considered over salpingectomy. Conservative surgery is effective in increasing the number of live births in women interested in fertility and does not significantly increase the risk for a repeat tubal pregnancy. With the present and increasing availability of microsurgical techniques and laser surgery, pregnancy outcome for the future may well be determined by the decision made under non-acute circumstances by the enlightened physician.

Table 7

Fertility After Conservative Surgery

	No. of Cases	Intrauterine Pregnancy	Ectopic Pregnancy
Skulj et al	45	23 (50%)	1 (2%)
Stromme	45	32 (71%)	7 (15%)
Decherney	48	19 (40%)[a]	5 (12%)
Starks	31	12 (38%)[a]	3 (10%)

a = corrected pregnancy rate 57%

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Regression of Renal Tumor with Seven-Year Survival Following Renal Artery Embolization

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A massive, highly vascularized renal tumor was treated three times successfully with embolization of the renal artery. The patient in this case report had an improved sense of well-being and quality of life following the procedure.

This case is reported as an excellent result of renal artery embolization of a very large renal tumor with extensive retroperitoneal spread. Although long-term survival with extensive renal cell carcinoma has been reported, this patient's clinical response to renal arterial embolization and subsequent long-term survival is of interest.

Case Report

This 65-year-old white man was first admitted to St. Luke's Hospital, Kansas City, in June, 1975, with a history of having had a lump on his liver, noted by his family physician a year previously, and intermittent right upper quadrant pain of four to six months' duration. There was no weight loss. Approximately 14 months prior to admission, he had a single episode of hematuria thought to be due to passage of a ureteral calculus. This was not investigated. On physical examination, he had what was believed to be an irregular, firm, enlarged liver, palpated three to four finger-breadths from the costal margin. An excretory urogram revealed a 15 cm right renal mass with associated ureteral displacement (Fig 1). An upper gastrointestinal x-ray series showed anterior and left-sided displacement of the entire duodenum (Fig 2). Renal arteriography showed a huge, hypervascular right renal mass with extension towards the renal vein and leftward displacement of the superior mesenteric artery (Fig 3A). An inferior venacavogram showed displacement and stretching of the inferior vena cava with normal flow from both renal veins (Fig 4A). On lateral view, the cava was anteriorly displaced. The encroachment on the cava was sufficient to cause marked collateral flow through the ascending lumbar, azygos, and intraspinal venous collateral vessels (Fig 4B). A liver scan showed no evidence of metastases. Chest x-ray was normal. There was no recent hematuria. These findings indicated the presence of a large hypernephroma, and the patient was taken to surgery.

At surgery in July, 1975, the mass measured approximately 33 x 13 x 13 cm and was grossly consistent with a renal cell carcinoma. It was fixed to the retroperitoneal space and had caused anterior displacement of the pancreas and duodenum. Biopsy findings of a mesenteric lymph node were non-diagnostic. Bi-

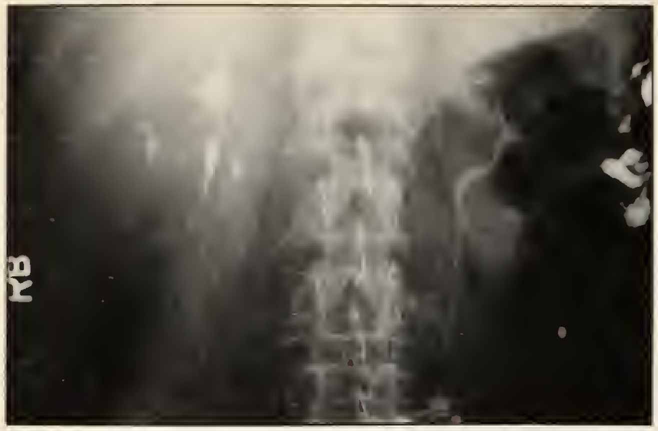


Fig 1. 26 June 1975 — Excretory urogram shows a large right-sided mass involving the lower two-thirds of the kidney with distortion and displacement of the collecting system.

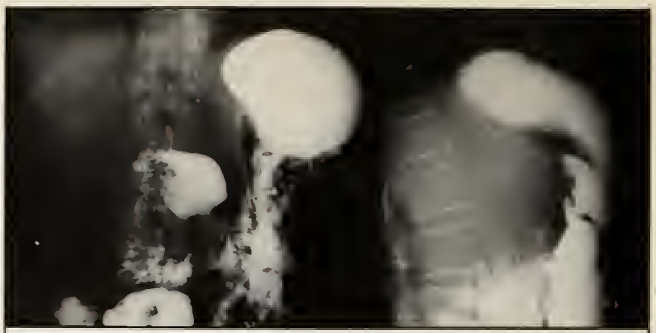


Fig 2A **Fig 2B**

Fig 2A and 2B. 25 June 1975 — Marked anterior and left-sided displacement of the duodenum and lower portion of the stomach are noted.

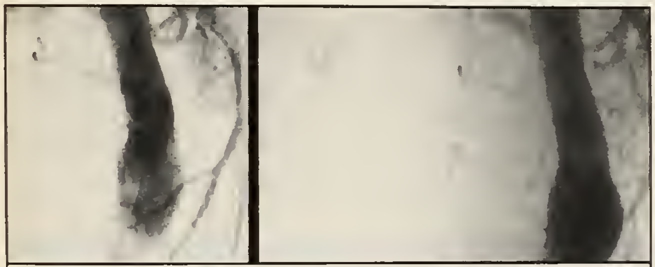


Fig 3A **Fig 3B**

Fig 3A. 27 June 1975 — A large, malignant-appearing vascular mass is noted involving the lower two-thirds of the right kidney with a tongue of malignant tissue extending toward the inferior vena cava. Note the considerable shift of the superior mesenteric artery to the left as well.

Fig 3B. 21 November 1975 — Following embolization, obvious vascularization by lumbar vessels is noted. There is a persistent malignant-appearing nodule of tissue in the hilar region.

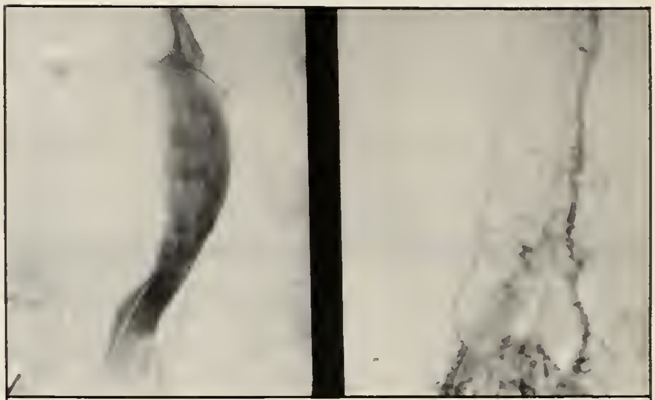


Fig 4A **Fig 4B**

Fig 4A. 1 July 1975 — Inferior venacavogram shows marked splaying of the inferior vena cava with apparent normal inflow from both renal veins.

Fig 4B. A late frame in this same series shows marked filling of collateral vessels indicating significant functional caval obstruction.

opsy of the mass itself was not performed for fear of initiating hemorrhage in an unresectable lesion. The patient recovered from the surgery without difficulty.

He was placed on a regimen of methyl medroxyprogesterone (Provera) 50 mg, twice a day. Radiation therapy was not recommended.

In November, 1975, approximately four months after his discharge from the hospital, the patient experienced massive hematuria which initially responded to phytonadione (Aqua Mephyton) given by his local physician. He was again referred to our institution, where his hemoglobin was noted to have dropped 2 g/dl. The mass had grown and now extended to the right iliac crest, grossly filling the right side of the abdomen. Bleeding persisted following admission and on Nov. 21, 1975, the three major branches of the right renal artery serving the tumor were individually embolized with tiny diced pieces of gelfoam. The main renal artery itself was embolized with larger pieces of gelfoam (Fig 3B). The patient experienced immediate pain, requiring narcotics before leaving the angiographic suite. For several days thereafter he was extremely uncomfortable, ran a septic course, and was treated with antibiotics although no positive cultures were ever obtained.

The patient was next seen in March, 1976, at which time he had gained 10 pounds, and the right-sided abdominal mass was barely palpable. The methyl medroxyprogesterone therapy was discontinued. During this time he had worked regularly as a roofing contractor and was free of symptoms. In December, 1978, nephrotomography revealed a non-functioning right kidney containing a 20 cm mass. In December, 1979, a computed tomography (CT) study revealed a

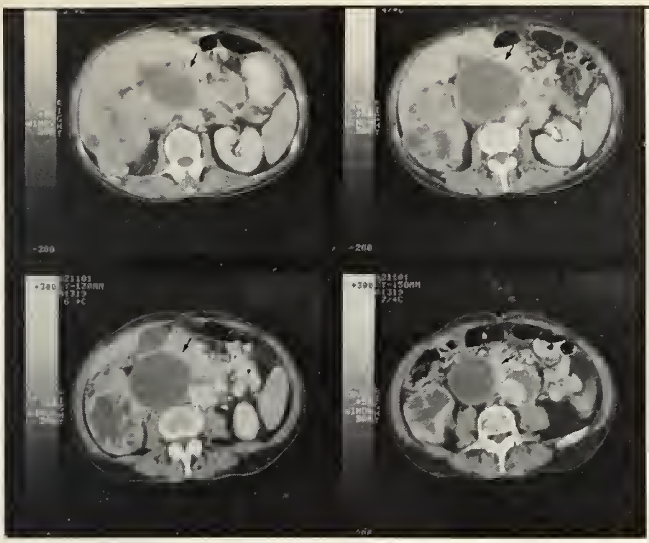


Fig 5. 20 November 1979 — Computed tomography reveals a large, necrotic-appearing mass in the right flank with a huge associated mass in the region of the inferior vena cava with marked splaying of the vena cava anteriorly (arrows). Note also the abdominal aortic aneurysm.

large, well-defined, necrotic-appearing renal mass with an additional large mass behind the inferior vena cava and pancreas with anterior displacement of these structures. These findings were compatible with what was seen at surgery. The great bulk of the mass appeared cystic or necrotic (Fig 5). The inferior vena cava was splayed over this mass.

In March, 1980, hematuria again developed. No palpable mass was identified clinically. Angiographic studies revealed a recurrent hypervascular area with recanalization of the main right renal artery. This vascular mass was again packed with tiny pieces of gelfoam and, in addition, "Gianturco coils" were placed in the renal artery (Figs 6A and 6B). Some pain and discomfort followed the procedure, and the patient was discharged with no additional hematuria. At this time, therapy with megestrol acetate (Megace) was started.

Following the second embolization procedure, the patient did well. However, in November, 1981, he began to have increasing pain and enlargement of the mass. A repeat angiogram at this time showed a patent right renal artery with blood passing through the coils in the renal artery (Fig 7). Seven milliliters of absolute alcohol were injected and an additional coil was placed against the coil already in the artery. Angiographic examination of the celiac, superior mesenteric and some left lumbar branches showed feeding to the tumor. From that time on, the patient showed a slowly progressive downhill course until April, 1982, when he began to have considerable right shoulder pain, which was thought to be due to brachial plexus invasion. He received radiation therapy for this, but died on June 5, 1982. At the time of death,

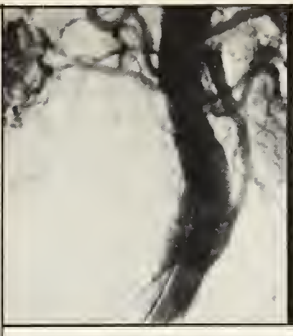


Fig 6A

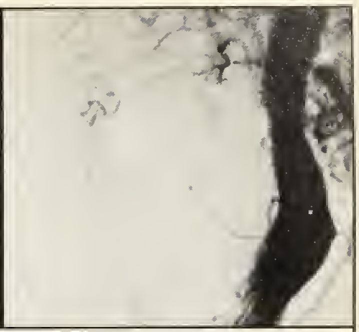
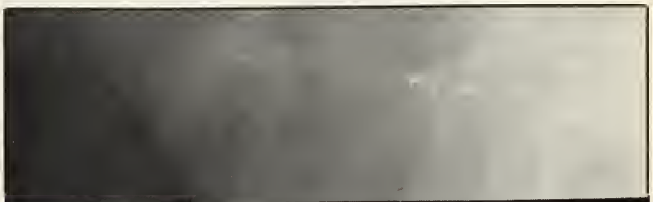


Fig 6B

Fig 6A. 10 March 1980 — Aortogram before embolization shows recurrent vascularity in the right flank. The right renal artery does appear to be slightly smaller than previously.

Fig 6B. Flush aortogram taken following embolization shows increased vascularization by lumbar vessels when compared with the previous study. (See Fig 3B)



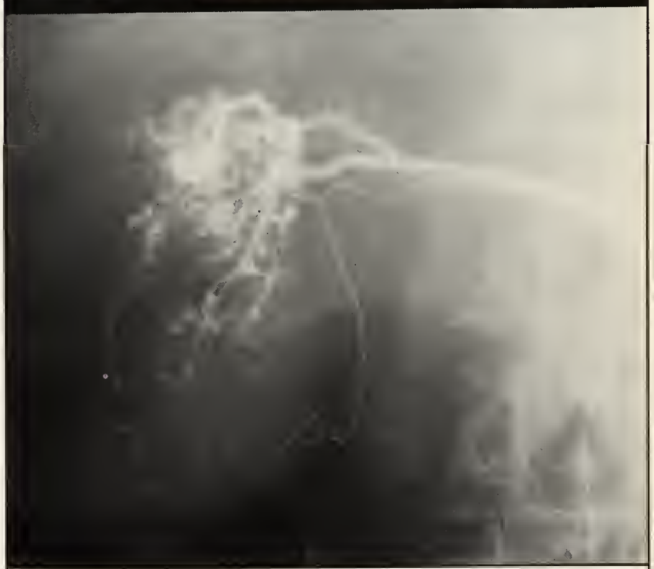


Fig 7A (top) **Fig 7B**

Fig 7A. 1 December 1981 — Coil in right renal artery with selective catheter adjacent to it.

Fig 7B. Selective right renal arteriogram shows patency despite presence of coil.

he had three small pulmonary nodules, the only objective sign of metastatic disease. Postmortem examination confirmed the clinical diagnosis of hypernephroma.

Discussion

Goldstein et al reported renal arterial embolization to have value as a preoperative procedure to reduce tumor vascularity and bulk. They have also reported embolization to be of value in cases of uncontrolled hematuria, as in this case.[1] Chuang et al have reported the use of the procedure in treating metastic renal cell carcinoma.[2] The value of embolization in stimulating immunological response and, therefore, improving survival has been advanced.[3]

The clinical history, initial radiographic, and surgical findings of this case all pointed to the single diagnosis of renal cell carcinoma despite the absence of definitive biopsy results. Postmortem examination confirmed the diagnosis. Although this patient was initially treated with medroxyprogesterone and subsequently with megestrol acetate, his clinical condition deteriorated with marked tumor growth and massive hematuria. Three arterial embolization procedures were eminently successful at controlling tumor growth and hematuria. The patient had quality survival for more than five years and died seven years after the initial discovery of a large, highly vascular and invasive right renal mass.

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Ventricular Standstill in Acute Inferior Myocardial Infarction with High Degree AV Block

Harry R. Gibbs, M.D., and Chi-Sung Zee-Cheng, M.D.
Kansas City, Missouri

The use of a temporary pacemaker post-myocardial infarction is discussed, with reference to a case of sudden ventricular standstill in a patient with third degree atrioventricular block. The authors emphasize the possibility of standstill regardless of degree of block.

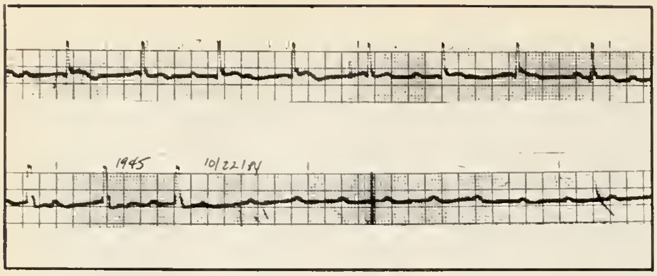
The clinical course and therapy of atrioventricular (AV) conduction disturbances in acute myocardial infarction has traditionally been linked to the location of the infarct and the presumed site of AV block.[1] The following represents a case of sudden ventricular standstill in a patient with high degree AV block and inferior infarction.

Case Report

A 49-year-old man with no previous history of cardiac problems was admitted after experiencing four hours of substernal chest pain. Admission ECG revealed acute inferior injury and high degree AV block. Over the next two days, ECGs showed typical evolution in leads II, III, and AVF, consistent with a Q wave inferior myocardial infarction. Serum levels of total creatine kinase rose to a peak of 2660 IU/l. During this time, the monitor showed a persistent third degree AV block, with an atrial rate of 75 to 80 beats per minute and a narrow QRS ventricular rate of 55 to 65 beats per minute. Blood pressure and cardiac output remained normal. There was no hemodynamic evidence of right ventricular infarction. On the third hospital day, he developed asystole, with loss of consciousness and subsequent seizure activity, unresponsive to medical therapy. The monitor recorded only P waves present (see Figure). The patient was resuscitated, and a temporary transvenous ventricular pacemaker was inserted. There was no subsequent enzymatic evidence of reinfarction or extension. Intrinsic ventricular activity did not return spontaneously until the sixth hospital day, when he was again found to be in third degree AV block with a narrow QRS escape rhythm of 50 to 60 beats per minute. By the 10th hospital day, the patient was in normal sinus rhythm. Further recovery was uneventful.

Discussion

Advanced atrioventricular block is a complication of inferior myocardial infarction, occurring in as many as 17% of patients.[2] Although patients with AV block may have a higher mortality than those without, death



Top strip: Monitor strip of patient on third hospital day, showing high degree AV Block.

Bottom strip: Same patient later that day, showing ventricular asystole. Note persistent atrial activity.

is usually due to extensive myocardial damage, rather than as a direct result of bradyarrhythmias. The cause of block in inferior infarction is believed to be secondary to ischemia in the region of the AV node. AV block is usually transient, and the ventricular rate, essentially derived from a junctional rhythm, is sufficient to maintain adequate cardiac output. Initially, our patient presented, in a manner similar to many patients, with inferior infarction and AV block. Atrial rate was higher than ventricular rate, but the ventricular escape QRS rhythm was narrow and sufficiently high to maintain normal hemodynamics. However, the sudden failure of his subsidiary pacemaker is more consistent with infra-nodal block. No morphine had been given that day. Although the patient was receiving an intravenous infusion of nitroglycerin, and had been receiving intravenous lidocaine for the first two days of his hospitalization, it is unlikely that these medications played a significant role. Specifically, nitroglycerin has not been shown to adversely affect AV nodal conduction.[3] While infusion of lidocaine can cause asystole in patients with acute myocardial infarction and AV block,[4] our patient had no evidence of intrinsic ventricular conduction days after lidocaine was discontinued.

It is possible that the site of AV block was located within the bundle of His. Intra-His block can appear on the surface electrocardiogram as a narrow QRS rhythm. However, it can also behave more like classical infra-nodal block, rather than AV junctional block,[5] and many recommend permanent pacing in this event.[6] Some patients with inferior infarction have been shown to have evidence of abnormal H-V conduction times, at least in the convalescent stage.[7]

Treatment for high degree AV block in acute infarction is somewhat controversial. Some feel that temporary pacing is warranted for all third degree AV block, regardless of the location of the infarct.[8] Others feel that, because of the reliability of the junctional rhythm, treatment for patients with inferior infarction is warranted only for symptomatic bradyarrhythmias, pump failure, or bradycardia-dependent ventricular arrhythmias.[9-11] Our case illustrates the fact that, in acute inferior myocardial infarction, not all high degree AV blocks with narrow QRS escape rhythm are stable, and sudden catastrophic ventricular standstill can occur, regardless of the level of block. This lends support to the theory that prophylactic temporary pacing is a valid therapy for third degree AV block in acute inferior myocardial infarction.

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Medical School News

Washington University

■ A special fund has been created at Washington University School of Medicine in St. Louis to honor **C. Ronald Stephen, M.D.C.M.,** Professor Emeritus of Clinical Anesthesiology. Stephen established and headed the school's department of anesthesiology.

The C. Ronald Stephen Lectureship and Clinical Research Fund in Anesthesiology will be used to support clinical research in anesthesiology at the School of Medicine and to sponsor annual visits by distinguished speakers in anesthesiology and related fields. The endowment, developed by Stephen's friends and former colleagues, residents and students, was announced in November, at a symposium titled "Anesthesia and the Geriatric Patient."

Stephen came to the School of Medicine in 1971 as the Mallinckrodt Professor of Anesthesiology and head of the department. He also served as chief of anesthesiology at Barnes Hospital, a sponsoring institution of the Washington University Medical Center. After retiring from Washington University in 1980, he served five years as chief of anesthesia at St. Luke's Hospital.

He received his medical degree from McGill University in Montreal, Canada, in 1940, and received a diploma and certification in anesthesiology from the Royal College of Physicians and Surgeons in 1946 and 1947.

The founding editor of *Survey of Anesthesiology*, one of the leading journals in its field, Stephen served as editor from 1957-1984, and is still a member of the editorial board. In 1982, he received the Distinguished Service Award from the American Society of Anesthesiologists.

■ December 1-7 was designated "National Epidermolysis Bullosa Awareness Week."

Washington University in 1983 established one of the country's first centers for the study of Epidermolysis Bullosa (EB). It is one of four centers to receive a five-year grant of more than $500,000 to direct a national patient registry that will provide statistical and general information about EB. Also, the local center has been testing several new products that seem to help some EB patients.

EB awareness week has been established to raise the public's consciousness of the disease and its devastating effects, in hopes that new funds essential to research will be made available. The federal government has allotted almost $4 million for EB research in fiscal year 1987.

■ Researchers from Washington University School of Medicine in St. Louis held free high blood pressure screenings during November and December at National Super Markets in the St. Louis area.

The screenings were brief and simple: participants simply had their blood pressure checked, and if interested, provided their name, age, address and phone number. If eligible, they were invited to participate in the screening phase of a national study and receive an in-office evaluation.

Washington University is one of 16 centers participating in the study, called the Systolic Hypertension in the Elderly Program (SHEP). The project is funded by the National Heart, Lung, and Blood Institute and the National Institute of Aging.

Principal investigator of the St. Louis study is **H. Mitchell Perry Jr., M.D.,** professor of medicine and director of the hypertension division at the School of Medicine and a physician at Barnes Hospital, a sponsoring institution of the Washington University Medical Center. The study is being conducted in cooperation with St. Louis University School of Medicine.

■ **Carl Frieden, Ph.D.,** professor and interim head of biological chemistry at Washington University School of Medicine in St. Louis, has been honored for his scientific contributions by receiving MERIT status for his latest grant.

The award is from the National Institute of Diabetes and Digestive and Kidney Diseases, part of the National Institutes of Health (NIH). MERIT (Method to Extend Research in Time) Awards provide long-term, uninterrupted financial support to investigators who have demonstrated superior achievement during previous research projects. The grant for which Frieden received the MERIT award is expected to exceed $1.2 million.

Only a few NIH grants are selected for MERIT status. Researchers who receive the award are freed from time-consuming paperwork and other delays traditionally associated with grant renewal applications. The initial five-year award is accompanied by an opportunity to extend it three to five more years, based on an expedited review of work accomplished during the initial period.

Frieden came to Washington University in 1955 as a postdoctoral fellow, and joined the faculty in 1957 as an instructor in biological chemistry. He was named a professor in 1967, and interim department head earlier this year.

He has served as a council member of the American Society of Biological Chemists and as an alternate council member of the American Chemical Society's Division of Biological Chemistry. He is also a member of the American Society of Cell Biology and the American Association for the Advancement of Science, and serves on the editorial board of Biochemistry. He has served on the editorial board of the Journal of Biological Chemistry and of Archives of Biochemistry and Biophysics. He received the St. Louis Award of the American Chemical Society in 1976. Frieden is co-author of more than 100 publications on his research.

St. Louis University

■ St. Louis University Medical Center has established HealthLine Physician Services, a health care staffing company designed to address the physician shortage in area communities.

Under the direction of **Frank J. Siano,** president, HealthLine Physician Services will contract with physicians to fill the gaps in medical care available in hospitals and small towns.

For example, if a doctor plans to take a vacation or attend a conference, HealthLine Physician Services can provide a temporary replacement. If a community hospital needs physicians to staff its emergency room, the company can supply part-time or full-time doctors.

A wholly-owned subsidiary of St. Louis University, HealthLine Physician Services will provide administrative support services including consultation for marketing and accreditation.

■ Researchers at St. Louis University Medical Center have been awarded grants totaling more than $1.5 million for studies pertaining to lung diseases.

William J. Longmore, Ph.D., professor of biochemistry, received a five-year grant of $776,453 from the National Heart, Lung and Blood Institute (NHLBI). The grant will fund Dr. Longmore's continuing studies of pulmonary surfactant, the substance in the lungs that, among other things, allows them to properly inflate.

Courtney Crim, M.D., assistant professor of medicine, has been awarded a five-year, $325,969 grant, also from the NHLBI. He will study the causes of Adult Respiratory Disease Syndrome (ARDS), a disease that kills more than half its victims. In patients with ARDS, a type of white blood cell called the neutrophil damages the cells that line and protect the alveoli in the lungs. Dr. Crim will investigate the mechanisms of this damage.

Robert Webster, Ph.D., associate professor of medicine and microbiology, also received a grant to investigate neutrophils. He will study the way they adhere to other cells in fighting infection and causing lung injury. His research will be funded by a five-year, $314,782 award from the NHLBI.

The American Lung Association of Eastern Missouri has awarded a two-year, $25,360 grant to **Jerome E. Holliday, Ph.D.**, a psychologist and assistant professor of medicine. Dr. Holliday is studying the use of biofeedback to help patients on ventilators relearn to breathe on their own.

Jill Ohar, M.D., assistant professor of medicine, was awarded $17,500 by the American Lung Association. She will study the cellular and biochemical mechanisms that trigger high blood pressure in the lungs.

■ **Mark Knuepfer, Ph.D.**, assistant professor of pharmacology at St. Louis University School of Medicine, has received $24,747 grant from the Missouri Affiliate of the American Heart Association. The funding will be used to begin a study investigating the role of renal nerves in blood pressure control.

Evidence suggests that the kidneys send electrical signals to the brain that might trigger hypertension. Dr. Knuepfer's research will examine blood pressure and blood flow responses to stimulation of these renal nerves.

■ **George E. Thoma, M.D.**, immediate past vice president for St. Louis University Medical Center, has been appointed 1987 co-chairman of the American Medical Association's Liaison Committee on Medical Education. The committee is responsible for accreditation of all medical schools in the United States and Canada.

Dr. Thoma was vice president for the medical center for 13 years, from 1973 until his retirement from that position last July. Presently, he is on sabbatical in Geneva, Switzerland, working with the World Health Organization. He will return to the United States in early 1987 and will resume his position as professor of medicine. In addition, he holds a secondary appointment as professor of hospital and health care administration in the Center for Health Services Education and Research.

■ **Stewart G. Albert, M.D.**, associate professor of medicine in the division of endocrinology at St. Louis University School of Medicine, has received a $25,000 grant from the American Diabetes Association to develop treatment strategies for non-insulin dependent diabetics.

The study will focus on weight reduction and long-term improvements in diabetic control through diet, low-level exercise, and behavior modification.

University of Missouri-Kansas City

■ The names of eighteen students from the University of Missouri-Kansas City School of Medicine will appear in the 1987 edition of *Who's Who Among Students in American Universities and Colleges*. Students are selected based on their academic achievement, service to the community, leadership in extracurricular activities, and potential for continued success. The 18 students are: Rebecca L. Brown; William D. dePond; Ganesh G. Gupta; Cassing Hammond; James M. Hartman; Jeffrey D. Kerby; Kathryn L. Lane; Susie M. Liu; John P. McKenzie III; Kathleen T. Mitchell; Brenna J. Nance; James P. Reardon; Carla J. Siegfried; Linda M. Siy; Kenneth N. Sonnenschein; Diane S. Voss; Glennon Paul Yazdi; and Paul E. Zachary.

■ More than 300 people attended UMKC School of Medicine's Year-1 convocation Nov. 9. The annual event, which welcomes the members of the incoming class and their parents, this year featured **Jack L. Titus, M.D., Ph.D.**, the W. L. Moody Jr. Professor and Chairman of the Department of Pathology at Baylor College of Medicine. Dr. Titus is known as an outstanding pathologist and a great scholar. He has lectured extensively in the United States and all over the world, and is author of more than 1,200 scholarly articles.

■ **Richard L. Baumann Jr.**, a graduate of St. Charles High School, is the fifth recipient of the Richard T. Garcia Memorial Award, presented annually at Year-1 convocation. The Garcia Award is made on behalf of an outstanding medical student who cared about others and showed great promise during his first year at UMKC. After his untimely death, the Garcia family established the award. It is presented to the second-year student who in his or her first year exhibits compassion and empathy for fellow students, fine academic performance, and outstanding leadership.

■ **Joel Covinsky, Pharm.D.**, was honored at a Nov. 13 farewell reception, where **Stephen Hamburger, M.D.**, chairman of the Department of Medicine, presented him with a chair for more than 14 years of service at UMKC School of Medicine and Truman Medical Center. "Dr. Covinsky is one of the fathers of clinical pharmacy," Dr. Hamburger said. "He helped begin the College of Clinical Pharmacy, was an early president of that organization, and is one of the reasons why clinical pharmacy is a big part of this institution." Dr. Covinsky gave his farewell by thanking the "critical nucleus" of people at the medical school, including **Drs. Richardson K. Noback**, and **E. Grey Dimond**, as well as the late **Dr. Ed Twin**, in addition to **Drs. Beaty Pemberton** and **Stephen Hamburger.** He concluded with a tribute to the students saying that they "are the real future of this school."

■ UMKC School of Medicine on Dec. 4-5 hosted **Dr. Jack Kalberer**, coordinator for Disease Prevention and Health Promotion for the National Institutes of Health. Dr. Kalberer, whose area of expertise involves obtaining extramural funding, came for individual meetings with faculty, students, and staff who have an interest in obtaining funding for research projects.

■ A poster presentation by **Larry Dall, M.D.**, recently won the Steve Hansen Award at the Southwestern Association of Clinical Microbiology annual meeting in Oklahoma City. The award goes to the best poster session at the meeting. Co-authors for "Enzymatic Modification of the Glycocalyx in the Treatment of Experimental Viridans Streptococcal Endocarditis" were **D. Shields, W. Barnes,** and **J. Mills.** Dr. Dall and Dr. Bill Barnes also presented the poster session in New Orleans, at the Twenty-Sixth Interscience Conference on Antimicrobial Agents and Chemotherapy.

■ **Mark Griffin,** a fifth-year student at UMKC School of Medicine, is the 1986 recipient of the Mobay College Essay Award for his paper, "Characterization of Messenger RNA Splicing." **Bob Yang, Ph.D.,** UMKC associate professor of Basic Life Sciences, was Mark's faculty sponsor. The award goes to a college student in the Kansas City area majoring in chemistry or chemical engineering for the best essay on a subject of his or her choice.

The University of Missouri-Columbia

■ **Michael E. Whitcomb, M.D.,** dean of the University of Missouri-Columbia School of Medicine, has just been appointed to the newly-created Council on Graduate Medical Education by U.S. Health and Human Services Secretary Otis R. Bowen. Dean Whitcomb, along with the 16 other members selected for this Council, will make recommendations to the Secretary and Congress about the direction the government should take in influencing physician training and distribution in America. Dr. Whitcomb also published a health policy proposal in the November 6th issue of the *New England Journal of Medicine*. His proposal calls for the dismantling of Medicaid and a restructuring of Medicare to better meet the health care needs of America's poor.

■ **Keith Boles, Ph.D.,** assistant professor of health related professions, has been appointed to the editorial board of the Journal of Long-Term Care Administration. He also presented a paper on the subject at a conference of the American College of Health Care Administrators.

■ **Thomas W. Burns, M.D.,** professor of medicine, was chosen as a recipient of the 1986 Faculty/Alumni Award. Award recipients were chosen on the basis of professional achievement, community service and contribution to the University.

■ **Gordon D. Brown, Ph.D.,** professor and director of health services management, presided over the 1986 International Symposium on Health Administration Education in Bogota, Colombia. In conjunction with the symposium, Dr. Brown taught a two-day seminar on "Teaching Health Administration." Dr. Brown has also been appointed to a one-year term on Missouri's Regents Advisory Council for the American College of Healthcare Executives.

■ **Leonard R. Forte, Ph.D.,** professor of pharmacology, has been awarded $81,000 for the fourth year of his five-year grant from the National Institutes of Health for his study of "Renal Adenylate Cyclase Regulatory Mechanisms" (total project — $409,213).

■ **Robert G. Frank, Ph.D.,** associate professor of medicine presented a paper on the Analgesic Effects of Antidepressants on Rheumatoid Arthritis at two national meetings the end of last year. It is published in January's issue of Arthritis & Rheumatism.

■ **Lanis Hicks, M.H.A.,** assistant professor of health related professions, is the principal investigator of a $40,000 grant from the Infectious Diseases Society of America to study infectious disease manpower in the United States. Mr. Hicks, who received the Outstanding Faculty Award from the school last summer, has also recently presented a paper at the meeting of the Association of University Programs in Health Administration in Washington, DC.

■ **J. Ricardo Martinez, M.D.,** professor of child health, was elected president for 1986-1987 of the Cystic Fibrosis Club, a group dedicated to cystic fibrosis research. Dr. Martinez recently spoke on the topic at the Latin American Congress of Cystic Fibrosis in Buenos Aires, Argentina.

■ **Aimee N. Moore, Ph.D.,** professor emeritus of dietetics in the School of Health Related Professions, has received the highest award possible from the American Dietetic Association, the professional organization of dieticians with a membership of more than 50,000. Dr. Moore received the Majorie Hulsizer Copher Award for being an innovator in the development of hospital dietetic management, a distinguished researcher and author on dietetics, an exemplary educator committed to advanced degree programs and an inspiration to generations of food systems management leaders and educators.

■ **David Roeltgen, M.D.,** assistant professor of neurology, chief of behavioral neurology and director of the Learning Disabilities Clinic at UMC, recently received a three-year $81,314 grant from the National Institutes of Health to research "A Prospective Analysis of an Anatomically Based Neurological Model of Spelling and Writing." Dr. Roeltgen along with **David Tucker, Ph.D.,** assistant professor of neurology, **James Dexter, M.D.,** professor of neurology, **Felice Loverso, Ph.D.,** clinical assistant professor of neurology and **Richard Tully, M.D.,** associate professor of radiology will study patients with brain disorders who have acquired spelling and writing difficulties.

■ **Zbylut Twardowski, M.D.,** professor of medicine; **Ramesh Khanna, M.D.,** associate professor of medicine; **Karl Nolph, M.D.,** professor of medicine and chief of nephrology, and **Kirt Nichols, M.D.,** associate professor of surgery, have recently written and had published a booklet for health professionals entitled, "Swan Neck Peritoneal Dialysis Catheters."

■ **Clark Watts, M.D.,** professor of surgery and chief of neurological surgery, has recently been named Co-Chairman of the new National Head and Spinal Cord Injury Prevention Program by the U.S. Surgeon General. The new program, is sponsored by the American Association of Neurological Surgeons and the Congress of Neurological Surgeons.

■ **James Weiss, M.D.,** professor and chairman of psychiatry, now leads the American delegation of the newly-formed Asian-American consortium on psychiatric disorders and has been awarded the Distinguished Service Commendation of the National Council of Community Mental Health Centers. Dr. Weiss and **Armando R. Favazza, M.D.,** professor and associate chairman of psychiatry, were major contributors at a recent national conference on cultural psychiatry at the Aspen Institute, Wye Woods, MD. The Aspen Institute has been a pioneer in supporting major conferences with an international perspective, involving leaders in science, politics and the humanities.

■ The Department of Anesthesiology has two new faculty members. **Susan Krechel, M.D.,** associate professor, comes from a post as associate professor at the Washington University School of Medicine in St. Louis. **Gail Vandewalker, M.D.,** instructor, recently completed an anesthesiology fellowship at the University of Iowa Hospital and Clinics in Iowa City.

Information for Contributors

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

Manuscripts

Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

Letters

Letters will be published at the discretion of the editor, managing editor, and Editorial Board.

Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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New Members

■ **Clifford J. Ameduri, M.D.,** 1235 E. Cherokee, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Ameduri received his preliminary education at Utica College and his medical degree at New York Medical College in 1975. He completed his residency training at the University of California. He specializes in physical medicine and rehabilitation.

■ **Ronnie D. Brownsworth, M.D.,** 3231 S. National Ave., Springfield 65807, has become a member of the Greene County Medical Society. Dr. Brownsworth received his preliminary education at Southwestern Oklahoma State University and his medical degree at the University of Oklahoma in 1982. He completed his residency training at Oklahoma University Health Sciences Center, Okla. He specializes in neurology.

■ **Eugene T. Bode, M.D.,** 8900 Ward Parkway, Suite 200, Kansas City 64114, has become a member of the Jackson County Medical Society. Dr. Bode received his preliminary education at Southern Illinois University and his medical degree at Michigan State University in 1977. He completed his residency training at the Mayo Clinic, Rochester, Minn. He specializes in anesthesiology.

■ **Roger D. Bonham, M.D.,** 500 Keene St., Columbia 65201, has become a member of the Boone County Medical Society. Dr. Bonham received his preliminary education at the University of Oklahoma and his medical degree at the University of Oklahoma in 1981. He completed his residency training at the University of Oklahoma. He specializes in ophthalmology.

■ **Richard E. Butin, M.D.,** 6420 Prospect, Suite T101, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Butin received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1983. He completed his residency training at Cleveland Clinic Foundation, Cleveland, Ohio. He specializes in internal medicine.

■ **George W. Carr, M.D.,** 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Carr received his preliminary education at Washington University and his medical degree at the University of Missouri-Columbia in 1985. He is completing his residency training at the University of Missouri Health Sciences Center, Columbia. He specializes in family practice.

■ **Donald E. Cole, M.D.,** Box 125, Dallas St., Hermitage 65668, has become a member of the Dallas-Hickory-Polk-Dade County Medical Society. Dr. Cole received his preliminary education at the University of Missouri-Kansas City and his medical degree at the University of Missouri-Kansas City in 1983. He completed his internship at the Medical College of Virginia, Richmond, VA. He specializes in general practice.

■ **Thomas W. Dooley, M.D.,** M349, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Dooley received his preliminary education at the University of Pennsylvania and his medical degree at the University of Missouri-Columbia in 1983. He is completing his residency training at the University of Missouri Health Sciences Center, Columbia. He specializes in plastic surgery.

■ **Scott A. Estrem, M.D.,** 1 Hospital Drive MA314 Medical Sciences, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Estrem received his preliminary education at the University of Iowa and his medical degree at the University of Iowa in 1980. He completed his residency training at the University of Iowa. He specializes in otolaryngology.

■ **David B. Hardin, M.D.,** 5R-01 Rusk Rehabilitation Center, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Hardin received his preliminary education at Eastern Illinois University and his medical degree at the University of Illinois in 1985. He is completing his residency training at the University of Missouri-Columbia Hospitals and Clinics. He specializes in physical medicine and rehabilitation.

■ **Randy C. Hill, M.D.,** 1965 S. Fremont, Suite 1800, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Hill received his preliminary education at the University of Arkansas and his medical degree at the University of Arkansas in 1982. He completed his residency training at the St. Louis University Hospital. He specializes in obstetrics and gynecology.

■ **Paul E. Kaplan, M.D.,** 5R01 Rusk Rehabilitation, 1 Hospital Drive, Columbia 65212, has become a member of the Boone County Medical Society. Dr. Kaplan received his preliminary education at Amherst College and his medical degree at the University of California-Los Angeles in 1966. He completed his residency training at Cedars-Sinai Medical Center. He specializes in physical medicine and rehabilitation.

■ **Basimah Khulusi, M.D.,** 3011 Baltimore, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Khulusi received her preliminary education at the American University of Beirut and her medical degree at Ain-Shams University in 1979. She completed her residency training at Kansas University Medical Center. She specializes in physical medicine and rehabilitation.

■ **Shelby K. Kopp, M.D.,** 11745 Olive Blvd., Suite 202, Creve Coeur 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kopp received his preliminary education at the University of Connecticut and his medical degree at Northwestern University in 1976. He completed his residency training at Washington Hospital Center, Washington, D.C. He specializes in environmental and occupational medicine.

■ **Keith I. Linas, M.D.,** 1314 N. 36th St., St. Joseph 64506, has become a member of the Buchanan County Medical Society. Dr. Linas received his preliminary education at the University of Richmond and his medical degree at the University of South Carolina in 1974. He completed his residency training at the Medical College of Virginia. He specializes in pediatrics.

■ **Kevin A. Linkus, M.D.,** 2929 Baltimore, Suite 330, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Linkus received his preliminary education at the University of California-Irvine and his medical degree at the University of California-San Diego in 1979. He completed his residency training at the University of Wisconsin, Madison. He specializes in cardiovascular and thoracic surgery.

■ **Vito A. Mantese, M.D.,** 1325 S. Grand, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Mantese received his preliminary education at the University of Missouri-St. Louis and his medical degree at St. Louis University in 1982. He completed his residency training at St. Louis University. He specializes in pulmonary diseases.

■ **Frederick G. McQueary, M.D.,** 1900 S. National, Suite 1980, Springfield 65804, has become a member of the Greene County Medical Society. Dr. McQueary received his preliminary education at Southwest Missouri State University and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at the University of Iowa Hospitals. He specializes in orthopedic surgery.

■ **John T. Miller, M.D.,** 2929 Baltimore, Suite 415, Kansas City 64108, has become a member of the Jackson County Medical Society. Dr. Miller received his preliminary education at Benedictine College and his medical degree at the University of Nebraska in 1980. He completed his residency training at Kansas University. He specializes in internal medicine and cardiology.

■ **Roy Molina, M.D.,** 401 Keene, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Molina received his preliminary education at the University of Texas-Austin and his medical degree at the University of Texas-Galveston in 1981. He completed his residency training at the University of Texas Medical Branch, Galveston. He specializes in internal medicine and oncology.

■ **William D. Musick, M.D.,** UMHSC-Department of Medicine, 1 Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Musick received his preliminary education at Washington University and his medical degree at the University of Missouri-Columbia in 1984. He is completing his residency training at the University of Missouri-Columbia Hospitals and Clinics. He specializes in cardiology.

■ **Steven A. Olson, M.D.,** 27G Broadway Village, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Olson received his preliminary education at Washington University and his medical degree at the University of Missouri-Columbia in 1986. He is completing his residency training at the University of Missouri-Columbia Hospitals and Clinics. He specializes in orthopedic surgery.

■ **John C. Overman, M.D.,** 4916 Coachman Ct., Independence 64055, has become a member of the Jackson County Medical Society. Dr. Overman received his baccalaureate and medical degree at the University of Missouri-Kansas City in 1982. He completed his residency training at the University of Kansas Medical Center. He specializes in pathology.

■ **Dennis P. Owens, M.D.,** Suite 142 Research Medical Office Building, 6400 Prospect, Kansas City 64132, has become a member of the Jackson County Medical Society. Dr. Owens received his preliminary education at William Jewell College and his medical degree at the University of Kansas in 1978. He completed his residency training at Washington University Medical Center. He specializes in psychiatry.

■ **Thomas P. Pirotte, M.D.,** 516 Center, Sarcoxie 64862, has become a member of the Jasper County Medical Society. Dr. Pirotte received his preliminary education at Creighton University and his medical degree at Kansas University in 1974. He completed his residency training at Creighton University, St. Joseph, Omaha, Nebraska. He specializes in family practice.

■ **Nancy A. Rabon, M.D.,** 900 S. Adams, Nevada 64772, has become a member of the West Central Missouri Medical Society. Dr. Rabon received her preliminary education at Oklahoma Baptist University and her medical degree at the University of Oklahoma in 1959. She completed her residency training at Good Samaritan Hospital, Cincinnati, Ohio. She specializes in obstetrics and gynecology.

■ **David H. Roehrs, M.D.,** 107 E. Third, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Roehrs received his preliminary education at Westminster College and his medical degree at St. Louis University in 1982. He completed his residency training at St. Louis University Hospitals. He specializes in radiology.

■ **Reeta Rohatgi, M.D.,** 23 S. Mt. Auburn Rd., Cape Girardeau 63701, has become a member of the Cape Girardeau Area Medical Society. Dr. Rohatgi received her preliminary education at Sophie Grote College and her medical degree at Lady Hardinge Medical College in 1970. She completed her residency training at Lady Hardinge Hospital, New Delhi. She specializes in adult and child psychiatry.

■ **Gene Schoonmaker, M.D.,** 3231 S. National, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Schoonmaker received his preliminary education at Boston College and his medical degree at Albany Medical College in 1982. He completed his residency training at the University of Arkansas Medical Sciences & Affiliated Hospitals. He specializes in dermatology.

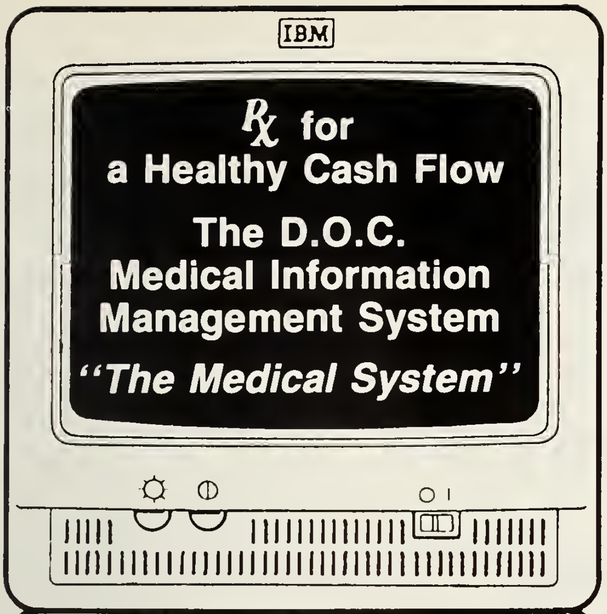
■ **Daniel G. Sohn, M.D.,** 5R-01 Rusk Rehabilitation Center, One Hospital Dr., Columbia 65212, has become a member of the Boone County Medical Society. Dr. Sohn received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1985. He is completing his residency training at Rusk Rehabilitation Center, Columbia. He specializes in psychiatry.

■ **William K. Taylor, M.D.,** 3231 S. National Ave., Springfield 65807, has become a member of the Greene County Medical Society. Dr. Taylor received his preliminary education at the University of Oklahoma and his medical degree at the University of Oklahoma in 1981. He completed his residency training at the University of Kansas-Wichita and Affiliated Hospitals. He specializes in internal medicine.

■ **Bruce D. Scully, M.D.,** 120 W. 4th St., Appleton City 64724, has become a member of the West Central Missouri Medical Society. Dr. Scully received his preliminary education at Drexel University and his medical degree at the American University of the Caribbean, Monseratt in 1983. He completed his residency training at Memorial Hospital, Mt. Holly, N.J. He specializes in family practice.

■ **Tara Talwar, M.D.,** 2255 Keeven Lane, Florissant 63031, has become a member of the St. Louis Metropolitan Medical Society. Dr. Talwar received her preliminary education at Christian Medical College and her medical degree at Christian Medical College in 1981. She completed her residency training at Cook County Hospital, Chicago, IL. She specializes in internal medicine and gastroenterology.

■ **James S. Zarr, M.D.,** 6650 Troost, Suite 306, Kansas City 64131, has become a member of the Jackson County Medical Society. Dr. Zarr received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1981. He completed his residency training at Ohio State University Hospitals, Columbus, Ohio. He specializes in physical medicine and rehabilitation.



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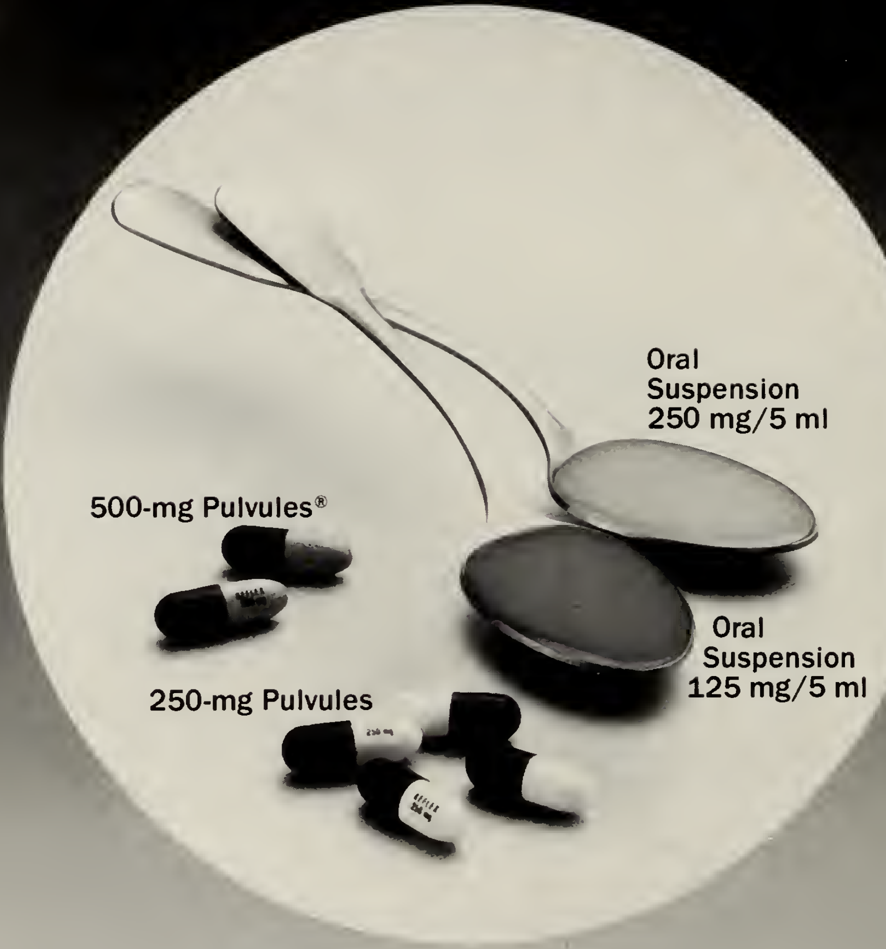

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January 1987

13-19 **Bone Health: Endocrinological, Rheumatological, and Nutritional Aspects** — Location: Las Brisas, Acapulco, Mexico. Contact Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

17 **Ventricular Arrhythmia: Update 1987** — Location: Adam's Mark Hotel, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

21 **Cancer of the Prostate Gland** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

February

4-6 **Seventh National Conference on CAPD** — Location: Westin Crown Center, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Cutaneous Signs of Malignancy** — Location: Brown Room, Jewish Hospital, St. Louis. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

28-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

6-7 **Eating Disorders** — Location: Hilton Inn, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

7-8 **Family Practice Update** — Location: MA217 CME Auditorium, UMC School of Medicine. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Reconstructive Surgery for Patients with Cancer of the Head and Neck** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: Fransisco Lounge, Student Center, University of Kansas Medical Center. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

April

3-4 **American Society for Microbiology** — Location: Breckenridge on the Lake, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

10-12 **New Technology in the Management of Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25 **Anticoagulant and Antithrombotic Therapy: State of the Art** — Location: Alameda Plaza Hotel, Kansas

City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4480.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

29-May 2 **Surgery of the Spine: State of the Art** — Location: Marriott's Pavilion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

June

17 **Neuroendocrine Tumors: Pathologic and Clinical Characteristics** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

October

3-4 **Infectious Disease Update 1987** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

22-23 **Chronic Obstructive Pulmonary Disease Update** — Location: Columbia Hilton Inn, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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Medical Practice Sales and Appraisals. We specialize in the valuation and selling of medical practices. Listed are a few available practices: ALLERGY — Philadelphia (2) and Kansas; DERMATOLOGY — Pennsylvania and Kansas; FAMILY PRACTICE — Ohio, New Jersey, Virginia and Delaware; INTERNAL MEDICINE — Pennsylvania, Maryland and Arizona; OPHTHALMOLOGY — Illinois; PEDIATRICS — Pennsylvania; RADIOLOGY — Pennsylvania (2); UROLOGY — Arkansas. If interested in buying or selling a medical practice, contact our brokerage division at The Health Care Group, 400 GSB Bldg., Bala Cynwyd, PA 19004 or call 215/667-8630.

Psychiatry practice for sale. Two actively practicing associates retiring 1987 (April)-(April-July). Address inquiries to: Psychiatry Practice, Suite 330, DePaul Hospital Medical Office Building, 12255 DePaul Drive, Bridgeton, MO 63044.

Health Resources has represented physicians seeking to buy or sell medical practices since 1979. Our work has received national attention in journals ranging from *Medical Economics* to *Medical Group Management*. For current opportunities nationwide, contact: Health Resources, Ltd., River Road Professional Building, Box 14188, Kansas City, MO 64152. 816/587-0920.

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An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

Physician's Recognition Awards

Thirty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the month of October 1986. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-month period. Sixty of the credit hours must be earned in Category I programs.

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Harry Cohen, *Mexico*

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In Memoriam

- **John F. Benson, M.D.,** 1227 Laclede Station Rd., St. Louis 63117; graduate of Meharry Medical College, 1944; member of the St. Louis Metropolitan Medical Society; age 77; died Nov. 10, 1986.

- **Jack R. Collins, M.D.,** 450 N. New Ballas #203, St. Louis 63141; graduate of the University of Missouri-Columbia, 1965; member of the St. Louis Metropolitan Medical Society; age 56; died Nov. 26, 1986.

- **Almando H. Moreano, M.D.,** 2929 Baltimore, 310 Pen Park Medical Building, Kansas City 64108; graduate of Guayaquil University, 1958; member of the Jackson County Medical Society; age 54; died Nov. 18, 1986.

- **Marvin Morse, M.D.,** 1202 N. 25th, St. Joseph 64506; graduate of Northwestern University, 1931; member of the Buchanan County Medical Society; age 78; died Oct. 11, 1986.

- **Harold Petersen, M.D.,** 706 N. 25th St. #7, St. Joseph 64506; graduate of the University of Nebraska, 1931; member of the Buchanan County Medical Society; age 80; died Oct. 13, 1986.

- **Frank O. Shobe, M.D.,** 1034 S. Brentwood Blvd. #1160, St. Louis 63117; graduate of Washington University, 1942; member of the St. Louis Metropolitan Medical Society; age 70; died Oct. 24, 1986.

■ Practice Management

Continued from page 19

• **What's its purpose?** Look at today's appointment schedule, determine if you can handle today's load, make changes in patient flow — *so that you can effectively manage today's activity.* Put out fires rather than sit in them.

• **How does it work?** When you arrive at the practice, you meet (your office is as good a place as any) on a stand-up basis; you look at today's appointment schedule, and the first thing you have to decide is — can we see the patients we are scheduled to see? If not (because you are late in getting started or because you are overbooked), then you instruct the staff to try to rearrange the schedule. One of them will call some patients and try to reschedule them so as to decrease today's load. You are solving today's work load problem.

• **What else can you do?** You can look at the schedule and possibly cluster certain patients whom you can see more quickly (routines, post-ops, simple chronics). You could depopulate the jammed reception room by seeing patients who are there with family or friends. Call off your luncheon appointment. You may determine you need an extra hour of work at the office — decide it early, not later on.

• **What should you not do?** Don't work fast; don't work harder. Pacing on a daily basis is more important to you, your aides and your patients than seeing a few more patients on a given day. When you go fast, you forget things: then the patient stops you or stops your nurse or calls the next day, and you've actually lost time instead of saving it.

The 2-minute stand-up meeting is a daily time control tool which allows you to reexamine today's patient schedule and try to relate it to the hours left in the day.

Also, your aides want you to make daily planning decisions — you can do this with the 2-minute meeting.

Start the day right by:

(1) limiting the number of hospitals you serve,
(2) avoiding hospital "habit traps,"
(3) communicating delays to the office, and
(4) practicing the 2-minute meeting at your office every day. ■

■ President's Page

Continued from page 15

to make our democracy work.

I urge each Missouri physician to participate, and I will close with a quote from "A Physician's Political Creed."

"Therefore, let no man seek to bar me from the political process, for it would be akin to denying my right to participate in the process that determines free government." ■

■ Editor's Desk

Continued from page 13

There is one safe guess: In the year 2000 all sorts of claims and predictions will still be made, trying to determine the form of medicine for the year 2025, and it will still be hard to believe many of them. ■

■ Auxiliary Message

Continued from page 17

structured guidelines, it behooves each one to become a clarion for the voice of medicine. By the very nature of the background, the physician emerges as an educated, thinking, and compassionate professional. The spouse who shares this life shares these qualities; together they continue to maintain an influential position in the community. United with other medical families, they can make a powerful impact in America.

With this position and ability comes the concept of the obligation as a citizen to participate in the governmental process. One of the best first steps is getting to know your legislators.

Your opportunity is Tuesday, March 3.

Join with your MSMA Auxiliary spouse and come to Jefferson City for "A Day at the Legislature." Have lunch with your legislators, visit their offices, see them at work, talk to them, express your concerns, and — yes — listen to their problems, too.

You will be guaranteed an informative, stimulating day. And fun! For more information, ask your spouse. Or call Pattye Barbee, MSMA Auxiliary Legislative Chairman, (314) 474-4051. ■

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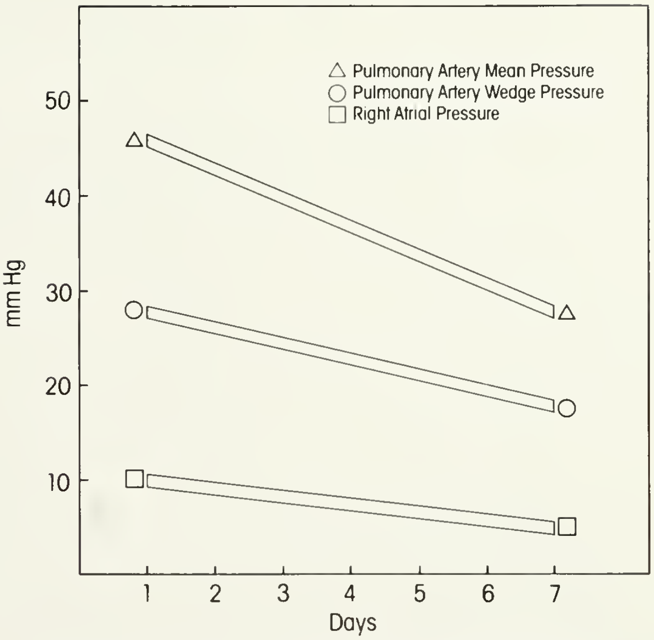

Ten patients with CHF showed marked hemodynamic improvement after seven days of BUMEX® (bumetanide/Roche) (mean values ± SE). Adapted from Olesen, *et al*.[1]

References: **1.** Olesen KH, *et al*: *Postgrad Med J 51*(Suppl 6) 54-63, 1975. **2.** Handler B, Dhingra RC, Rosen KM: *J Clin Pharmacol 21*:706-711, Nov-Dec 1981. **3.** Brater DC, *et al*: *Clin Pharmacol Ther 34*:207-213, Aug 1983. **4.** Brater DC, Fox WR, Chennavasin P: *J Clin Pharmacol 21*:599-603, Nov-Dec 1981. **5.** Davies DL, *et al*: *Clin Pharmacol Ther 15*:141-155, Feb 1974.

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Before prescribing, please consult complete product information, a summary of which follows:

> **WARNING: Bumex (bumetanide/Roche) is a potent diuretic which, if given in excessive amounts, can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dosage schedule have to be adjusted to the individual patient's needs. (See under DOSAGE AND ADMINISTRATION in complete product information.)**

INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephrotic syndrome.
Almost equal diuretic response occurs after oral and parenteral administration of Bumex. If impaired gastrointestinal absorption is suspected or oral administration is not practical, Bumex should be given by the intramuscular or intravenous route.
Successful treatment with Bumex following instances of allergic reactions to furosemide suggests a lack of cross-sensitivity.
CONTRAINDICATIONS: Anuria. Hypersensitivity and in patients in hepatic coma or in states of severe electrolyte depletion. Although Bumex can be used to induce diuresis in renal insufficiency, any marked increase in blood urea nitrogen or creatinine, or the development of oliguria during therapy of patients with progressive renal disease, is an indication for discontinuation of treatment.
WARNINGS: Dose should be adjusted to patient's needs. Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients.
Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risks to the patients.
In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma. Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance. Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients.
In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity. Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved. The potential for ototoxicity increases with intravenous therapy, especially at high doses.
Patients allergic to sulfonamides may show hypersensitivity to Bumex.
PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary. Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets. Hyperuricemia may occur. Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency. Bumex may increase urinary calcium excretion.
Possibility of effect on glucose metabolism exists. Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes.
Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions.
Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions.
Drugs with nephrotoxic potential and bumetanide should not be administered simultaneously.
Since lithium reduces renal clearance and adds a high risk of lithium toxicity, it should not be given with diuretics.
Probenecid should not be administered concurrently with Bumex.
Concurrent therapy with indomethacin not recommended.
Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage.
Interaction studies in humans have shown no effect on digoxin blood levels.
Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity.
Pregnancy: Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus.
Bumetanide may be excreted in breast milk.
Pediatric Use: Safety and effectiveness below age 18 not established.
ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease).
Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting. Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection.
Laboratory abnormalities reported are hyperuricemia, azotemia, hyperglycemia, increased serum creatinine, hypochloremia, hypokalemia, hyponatremia, and variations in CO_2 content, bicarbonate, phosphorus and calcium. Although manifestations of the pharmacologic action of Bumex, these conditions may become more pronounced by intensive therapy.
Diuresis induced by Bumex may also rarely be accompanied by changes in LDH, total serum bilirubin, serum proteins, SGOT, SGPT, alkaline phosphatase, cholesterol, creatinine clearance, deviations in hemoglobin, prothrombin time, hematocrit, platelet counts and differential counts. Increases in urinary glucose and urinary protein have also been seen.
DOSAGE AND ADMINISTRATION:
Oral Administration: The usual total daily dosage is 0.5 to 2.0 mg and in most patients is given as a single dose.
Parenteral Administration: Administer to patients (IV or IM) with GI absorption problem or who cannot take oral. The usual initial dose is 0.5 to 1 mg given over 1 to 2 minutes. If insufficient response, a second or third dose may be given at 2 to 3 hour intervals up to a maximum of 10 mg a day.
HOW SUPPLIED: *Tablets,* 0.5 mg (light green), 1 mg (yellow) and 2 mg (peach), bottles of 100 and 500, Prescription Paks of 30, Tel-E-Dose® cartons of 100. Imprint on tablets: 0.5 mg—ROCHE BUMEX 0.5, 1 mg—ROCHE BUMEX 1, 2 mg—ROCHE BUMEX 2.
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Bumex has a good safety profile; however, as with all loop diuretics, Bumex, if given in excessive amounts, can lead to profound diuresis with water and electrolyte depletion, including hypokalemia. Serum electrolytes should be monitored periodically, especially in patients on low salt diets or those treated for prolonged periods or on high doses.

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First line loop diuretic therapy

Please see references and summary of product information on preceding page.

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Missouri Medicine

Journal of the Missouri State Medical Association

February 1987

[redacted]

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In this issue

- Kawasaki Disease in an Adult
- Cervical Conization
- Transient Pancytopenia as an Initial Manifestation of Hereditary Spherocytosis
- HCFA's Plan for Implementation of the Medicare Second Opinion Program

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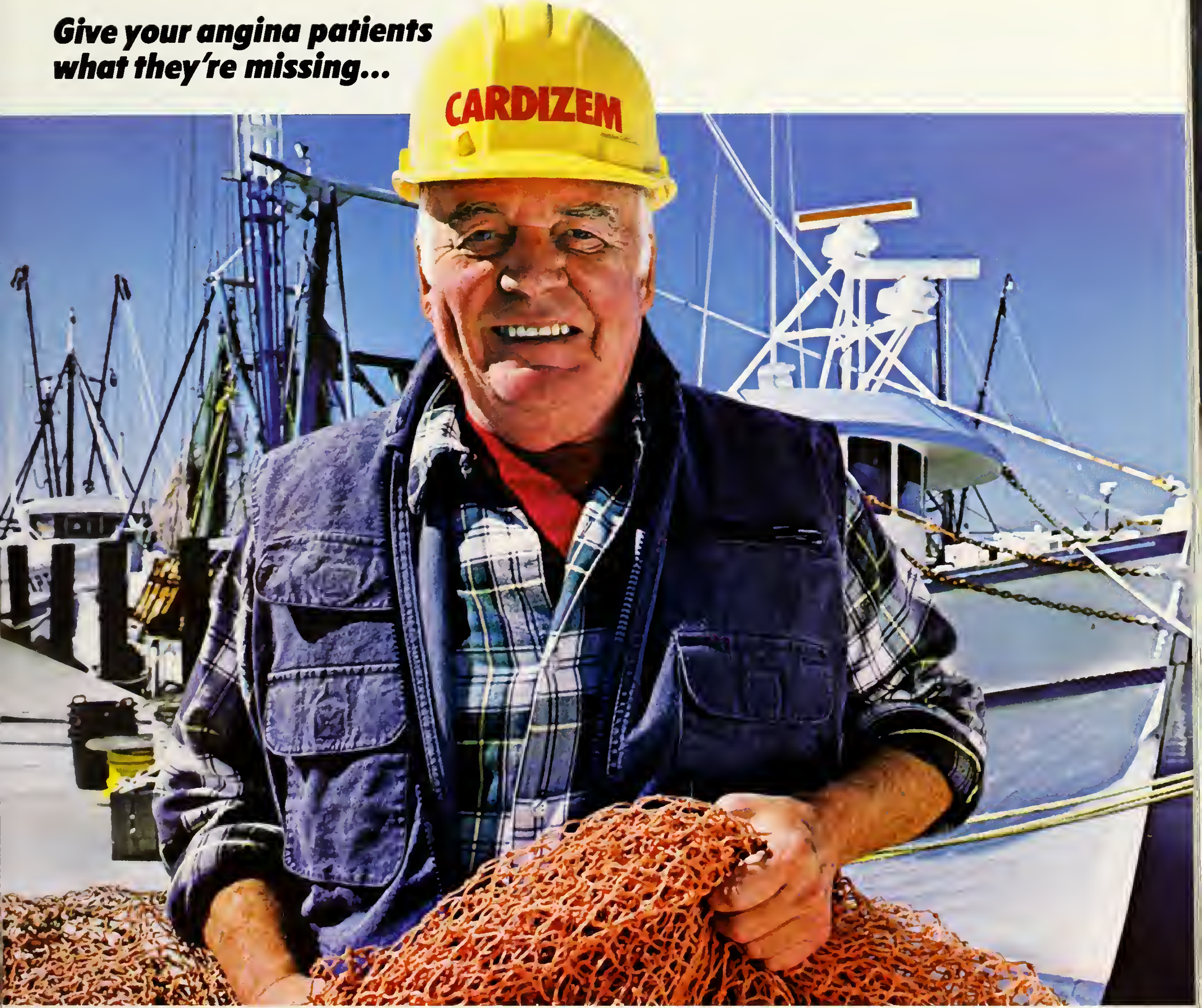

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****See Warnings and Precautions.***

Please see brief summary of prescribing information on the next page.

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Professional Use Information

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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 7/86*

See complete Professional Use Information before prescribing.

References: 1. Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347. **2.** Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159. **3.** Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687. **4.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **5.** Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.

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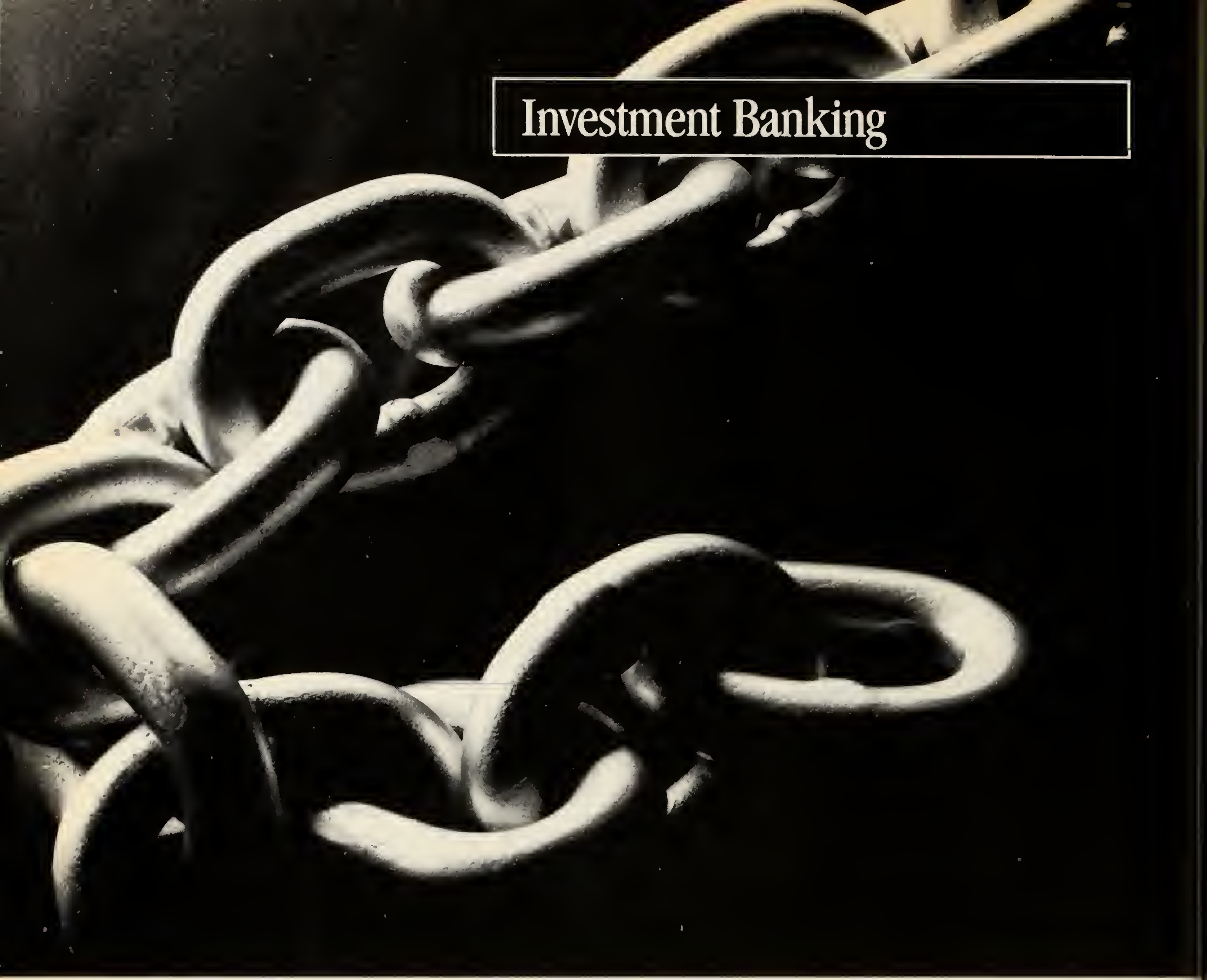

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"Goings on in the Hollow,"
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my•o•pia

\mī-ˈō-pē-ə\: deficiency of foresight

SYMPTOMS: Most often observed in professionals who are inundated with day-to-day responsibilities. Dedicated to the needs of others, subject becomes focused on today... at the expense of tomorrow's full potential. May have complicated, expensive retirement plan with scattered investments and sometimes unfocused or nonexistent financial objectives. The lack of sufficient time and professional guidance may result in feelings of anxiety over future well-being of self, family and staff.

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CONTRAINDICATIONS: None.

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MSMA Progress Notes

1987 Convention

Nationally known experts to debate future of solo practice

Nationally-known authorities Paul Ellwood, M.D., and Brant Mittler, M.D., will be featured in a debate of the merits of alternative health care delivery systems and the future of fee-for-service medicine at the General Session of the 1987 MSMA Annual Convention in April.

Dr. Ellwood, of Excelsior, Minn., is credited with inventing the term "Health Maintenance Organization" and is a leading marketing strategist, advising a variety of health care groups and organizations. Dr. Ellwood's medical training is in neurology, pediatrics, and physical medicine and rehabilitation. His consulting firm is founded on the belief that corporate medicine is the model for health care in the future, and that those organizations that will survive are those that work now to position themselves in an increasingly competitive environment.

Dr. Mittler, a San Antonio internist specializing in cardiovascular diseases, is a member and prominent spokesman for "Physicians Who Care." This group of independent San Antonio practitioners is dedicated to fighting corporate medicine, which they perceive as a threat to the quality of American medical care.

Titled, "Do Solo and Small Group Practices Have a Chance?" the debate will be followed by a question-and-answer session with the audience. The convention is slated for April 2-5, 1987, at Tan-Tar-A, Lake of the Ozarks. ■

At the December Council meeting in Jefferson City, Rep. Gladys Marriott of District 51 in Kansas City was presented a plaque for her efforts in the state legislature on behalf of MSMA. Above, her husband, Lloyd, Rep. Marriott and MSMA president Dr. Peter Ekern show the plaque to the Council.

AMA files suit against HHS

The American Medical Association, the Texas Medical Association, a county medical society, individual patients and physicians filed suit in Lubbock, Texas, December 24, 1986, against Otis Bowen, M.D., the Secretary of the U.S. Department of Health and Human Services, seeking permanent relief and a preliminary injunction against enforcement of provisions of the Omnibus Budget Reconciliation Act of 1986.

The Act establishes quasi-criminal sanctions against physicians who fail to comply with fee regulations in the Act. These regulations prevent Medicare beneficiaries from paying the same fees to physicians as other patients and establish mandatory fee levels which deny Medicare patients the right to select their own physicians. In addition, the Act discriminates against Medicare patients staying with physicians who do not accept assignment of Medicare claims 100% of the time by reducing the reimbursement which Medicare pays to those patients.

The suit, brought on behalf of more than 272,000 physicians including members of the Lubbock-Crosby-Garza Medical Society, was filed in the United States District Court for the Northern District of Texas, Lubbock Division.

"The physicians of America have a history of compassion in recognizing the financial burdens of the elderly," said James H. Sammons, M.D., Executive Vice President of the AMA. "In three-quarters of all Medicare cases, physicians charge less than they do for other patients, yet

Congress is turning Medicare beneficiaries into second-class citizens by denying them the right to select their own physicians and to pay, when they can afford to, what non-Medicare patients pay."

The temporary restraining order against implementation of the Medicare provisions of OBRA granted Dec. 29 was extended for 10 days — until Jan. 20 — by U.S. District Judge Barefoot Sanders in Dallas. The hearing before Judge Sanders originally scheduled for Friday, Jan. 9, was rescheduled for Tuesday, Jan. 13. On Jan. 20, Judge Sanders dissolved the AMA's temporary restraining order. The court case is still pending. ■

December Council meeting highlights

A $1.3 million budget for 1987 was approved at the December 13 meeting of the MSMA Council. Included in the total was a $34,000 appropriation for a feasibility study of an MSMA-sponsored IPA/HMO.

In other business, the Council voted to adopt as MSMA policy the AMA's position on protective headgear for horsemen. The AMA statement encourages the use of such headgear, and urges safety education for all equestrians. In high-risk equestrian events, the mandatory use of protective headgear is encouraged.

Acting on a report from District 10 Vice Councilor William Shell, M.D., Sikeston, Councilors agreed to ask the AMA to increase its transmittal of legislative and regulatory news and information to the state and local level. Dr. Shell reported concern from physicians in his district that the federal government's intrusion into medical practice was continuing at a relatively uncontrolled rate. The Council also voted to urge the AMA and MSMA to increase their efforts to challenge ill-advised rules and regulations in court.

Following the Legislative Affairs Committee report on legislation pre-filed for the 1987 Session, the Council went on record in support of S.B. 111, the Clean Indoor Air Act. The act, which is supported by a number of health groups, bans smoking in public buildings.

President H. Peter Ekern, M.D., Mexico, appointed the vice councilors to a new, permanent Membership Committee.

It was reported that the newly formed Resident Physician Section and Hospital Medical Staff Section would be holding organizational meetings soon. The sections will elect officers, councilors and delegates, as put forth in the MSMA Bylaws.

The Council voted to approve CME accreditations for the following institutions:

- Academy of the Health Professions, *Kansas City*, four years
- The Children's Mercy Hospital, *Kansas City*, four years
- Ellis Fischel State Cancer Hospital, *Columbia*, three years
- St. Luke's Hospital, *Kansas City*, four years
- Missouri Baptist Hospital, *St. Louis*, four years
- St. Mary's Health Center, *Jefferson City*, two years
- Phelps County Regional Medical Center, *Rolla*, probationary
- Alexian Brothers Hospital, *St. Louis*, deferred

It was noted that the MSMA had been granted accreditation for another four years.

Several Councilors expressed concern over the lack of practicing physician input on the Governor's overall state "Plan for the Year 2000" and the Department of Health's long-range plan. Accordingly, the Council agreed to send the Governor a recommendation that a practicing physician be named to the planning committees.

Dr. Francis Lieb, reporting for the AMA delegation, said the Missouri resolution (A-86) on abortion had been approved for a re-statement by the AMA House of Delegates at its interim meeting. The state's resolution dealing with the dissemination of Council on Scientific Affairs reports was held over until a four-state feasibility study can be completed.

In other actions, the Council

- accepted reports from the MSMA Physician Rehabilitation Committee, the Committee to Preserve Health Care, the AMA Prescription Abuse Data Synthesis (PADS) program, and a meeting of the executive committees of the MSMA, Missouri Association of Osteopathic Physicians and Surgeons, and the Missouri Hospital Association,
- voted to support Dr. Marvin Singleton in his bid for a seat on the AMA Council on Legislation, and Dr. Richard Bradley for the AMA Council on Medical Services, provided his nomination is approved by the AMA Board of Trustees,
- approved the dates of May 7-8, 1987, for a workshop on establishing a medical practice, and May 5-6, 1987, for a course on practice marketing, both to be held in St. Louis,
- discussed the deadline for making a 1987 Medicare "participating" agreement,
- discussed the implications of the proposed DRG reimbursement plan for hospital-based physicians.

The Council's next meeting was January 31, 1987, in Columbia. ■

Bradley named MOMEDICO president

The Missouri Medical Insurance Company (MOMEDICO) is pleased to announce that Richard V. Bradley, M.D., F.A.C.S. has assumed full-time responsibilities as President and Chief Executive Officer of the Company.

Dr. Bradley was a founding member of the Board of Directors in 1978. He assumed the part-time duties of President and Chief Executive Officer in 1980. ■

Anderson appointed to commission

The U.S. Constitution was signed in 1787 and organizations around the country will celebrate its bicentennial this summer.

The Constitutional Bicentennial Commission of Missouri held its first general meeting in Jefferson City at the invitation of Gov. John Ashcroft on December 16, 1986. Chairman of the Commission is Judge Albert Rendlen of the Missouri Supreme Court.

Phillip C. Anderson, M.D., chairman and professor of the department of dermatology at UMC, has been appointed to this Commission.

MSMA members interested in the 1987 celebration of the Constitution should contact:
P. C. Anderson, M.D., Chairman and Professor, Department of Dermatology, UMC Medical Center, M173, 1 Hospital Drive, Columbia, MO 65212. ■

Medical issues in Missouri legislature

The 1987 Missouri General Assembly convened January 6, with a host of bills to consider. Several have implications for physicians and their patients. Following is a list of a few of these medically important bills, which will be followed throughout the legislative session by the Association.

Members may wish to contact their own senators and representatives on these issues. For more information about any of these bills, contact the MSMA.

House Bills

HB 29 (Smoking Restrictions). Prohibits smoking in patient care areas in hospitals and health facilities, public and private buildings, except in designated smoking areas.

HB 42 (Medical Record Access). Requires physicians and other licensed practitioners to release medical records upon written request of the patient or legal representative. Health care providers are *not* liable for damages caused by release.

HB 44 (R.N.'s — Direct Reimbursement). Would provide direct third-party reimbursement to registered nurses.

HB 49 (Regulation of Controlled Substances). Would allow BNDD to suspend or revoke a license of a physician for violating a federal controlled substance law. Also limits amount of Schedule II, III, IV and V drugs which can be prescribed at one time.

HB 79 (Good Samaritan — OB Care). Expands the state's Good Samaritan Statute to include non-compensated, emergency births and emergency care for newborn.

HB 96 (Pharmaceutical Assistance). Requires Department of Social Services to assist certain elderly persons with the cost of prescription medications.

HB 146 (MedAssist). Establishes a state-funded program to provide health insurance coverage for the state's uninsured and underinsured.

HB 172 (Alcohol Offenses). Provides that any minor convicted of an offense related to alcohol loses driving privileges for six months.

HB 189 (Arthritis Drugs). Prohibits Division of Family Services from denying reimbursement for any non-steroidal, anti-inflammatory drugs approved by Food & Drug Administration.

HB 197 (Physical Therapists Screening). Permits P.T.'s to perform certain screening procedures, as employees of groups, without a physician's referral.

HB 202 (P.T. Clinics — Ownership). Would prohibit physicians from owning an interest in a physical therapy clinic.

HB 220 (Smokeless Tobacco). Prohibits sale of smokeless tobacco to persons under the age of 18.

HB 225 (Hospice Care). Requires Medicaid to reimburse for hospice care.

Senate Bills

SB 17 (Pharmaceutical Assistance). See HB 96.

SB 29 (Trauma Centers). Calls for study and implementation of trauma centers designations utilizing the recommendations of the American College of Surgeons.

SB 30 (Catastrophic Health Fund). Creates a state fund available to citizens to pay for excessive financial obligations related to health care.

SB 31 (Mobile Emergency Medical Technicians). Permits physicians to order emergency personnel to deliver a patient to a specific trauma center.

SB 34 (Seat Belts). Would remove the penalty and fine clause from the state's mandatory seat belt law.

SB 43 (Insurance Purchasers Guide). Requires an annual purchaser's guide which shall include information on all types of insurance.

SB 46 (Alcohol Offenses). See HB 172.

SB 49 (Tobacco Tax). Would impose a tax on tobacco products other than cigarettes with funds going to a cancer research fund.

SB 52 (Family Practice Residencies). Would increase state funding to establish additional family practice residencies and provide some funding for current programs.

SB 70 (Insurance — Rate & Premium). Requires all insurance rates and premiums to be approved by the Director of Insurance.

SB 111 (Smoking). See HB 29.

SB 166 (R.N.'s — Direct Reimbursement). See HB 44.

SB 167 (Social Workers—Licensing). Would provide for the licensure of social workers and limit the practice to those so licensed. ■

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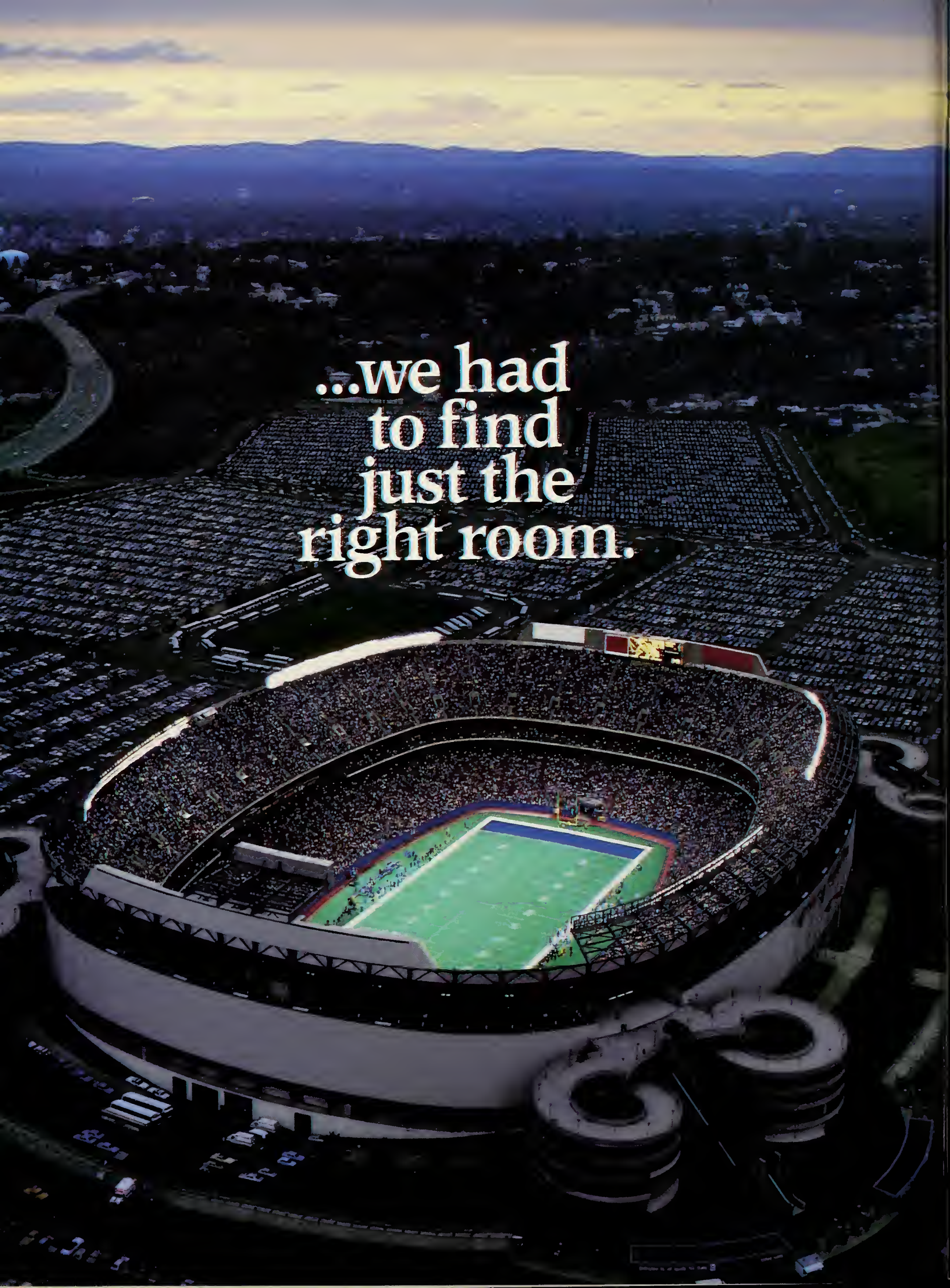
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60,073 patients (90%) who started on INDERAL® LA stayed on INDERAL LA.[1*]

Surprising? Not really.

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A recent double-blind, placebo-controlled, crossover study in 138 hypertensive patients[2] revealed that INDERAL LA has a side effects profile unsurpassed by atenolol or metoprolol—which shows how well-tolerated once-daily INDERAL LA can be.

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*After a 30-day trial with INDERAL LA, physicians reported that 90% of the patients would remain on INDERAL LA.

The one you know best keeps looking better

Please see next page for brief summary of prescribing information

The one you know best keeps looking better

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride Inderal LA is available as 80 mg 120 mg and 160 mg capsules

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites When access to beta-receptor sites is blocked by INDERAL the chronotropic, inotropic and vasodilator responses to beta adrenergic stimulation are decreased proportionately

INDERAL LA Capsules (80 120, and 160 mg) release propranolol HCl at a controlled and predictable rate Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period

The mechanism of the antihypertensive effect of INDERAL has not been established Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use Effects on plasma volume appear to be minor and somewhat variable INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity

In dosages greater than required for beta blockade INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential The significance of the membrane action in the treatment of arrhythmias is uncertain

The mechanism of the antimigraine effect of propranolol has not been established Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain

Beta receptor blockade can be useful in conditions in which because of pathologic or functional changes, sympathetic activity is detrimental to the patient But there are also situations in which sympathetic stimulation is vital For example in patients with severely damaged hearts adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved In the presence of AV block, greater than first degree beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm

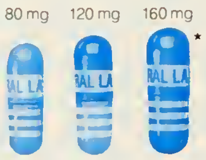
Propranolol is not significantly dialyzable

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina palpitations, and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS. CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can in some cases, lead to cardiac failure Therefore at the first sign or symptom of heart failure the patient should be digitalized and or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually if possible)

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and in some cases, myocardial infarction following abrupt discontinuance of INDERAL therapy Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema) — PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL (propranolol HCl), like other beta blockers is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e g dobutamine or isoproterenol However, such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients, it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case, this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS. *General* Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease elevated serum transaminase alkaline phosphatase, lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension

Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia congestive heart failure intensification of AV block, hypotension paresthesia of hands, thrombocytopenic purpura arterial insufficiency usually of the Raynaud type

Central Nervous System lightheadedness, mental depression manifested by insomnia lassitude, weakness, fatigue reversible mental depression progressing to catatonia visual disturbances hallucinations, an acute reversible syndrome characterized by disorientation for time and place short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics

Gastrointestinal nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis

Allergic pharyngitis and agranulocytosis, erythematous rash fever combined with aching and sore throat, laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous alopecia LE-like reactions, psoriasiform rashes dry eyes, male impotence, and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg for mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION — *Dosage must be individualized* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS — *Dosage must be individualized* Starting with 80 mg INDERAL LA once daily dosage should be gradually increased at three to seven day intervals until optimum response is obtained Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE — *Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimum migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks

HYPERTROPHIC SUBAORTIC STENOSIS — 80-160 mg INDERAL LA once daily

PEDIATRIC DOSAGE — At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

*The appearance of these capsules is a registered trademark of Ayerst Laboratories

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program Data on file, Ayerst Laboratories
2. Ravid M, Lang R, Jutrin I The relative antihypertensive potency of propranolol, oxprenolol atenolol and metoprolol given once daily *Arch Intern Med* 1985, 145 1321-1323

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Doctors are either dermatologists or they aren't.

The truth about dermatology

Washington's birthday reminds us, sometimes uncomfortably, of the apocryphal story of young George not telling a lie. So, perhaps we can now safely, years later, come forth and tell the truth: we never learned much about dermatology in medical school.

To begin with, the professor didn't stimulate much interest, especially as he read from the book using such words as *glycohistechia* and *rhizoglyphus*. Then, several lectures were devoted to describing how to stick a patient in the behind with penicillin to cure his lues, apparently a carryover from the days of syphilology being associated with dermatology. By this time the students had learned that the professor never flunked anybody, and interest in diseases of the skin was out the door, along with most of the pupils.

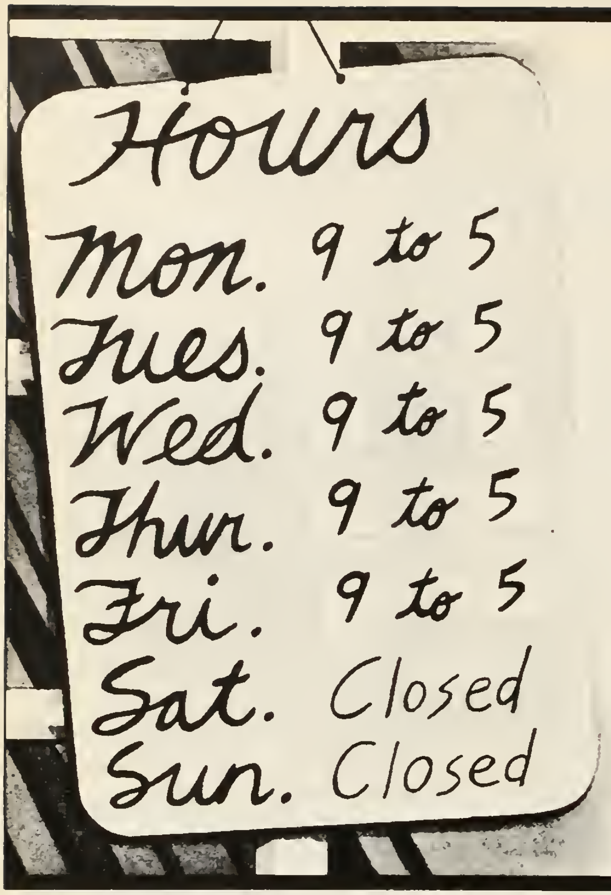
This experience may not have been totally unique to this medical school. A recent hospital survey of physicians for choices for postgraduate courses showed that the field of dermatology encompassed three of the most desired subject matters. A questionnaire from *Missouri Medicine* last year indicated high interest in the field of dermatology for future articles.

Doctors are either dermatologists or they aren't. If a sample tube of some kind of cream — preferably containing a dollop of cortisone — doesn't clear up a blotch on the doctor's skin, he is likely to slip through the dermatologist's back door to be seen. Of course, buttonholing the skin specialist in the hospital hall and getting a quick curbstone consultation is a fair game, often played. This works well providing the undesirable cutaneous eruption is not in too discreet a location.

Some of our good friends, the skin specialists, have their hangups too. Once we took a cruise to escape the dreary Missouri winter by visiting the Virgin Islands. While other pale specimens were warming themselves on the beach, the only dermatologist on the trip was huddled under a palm tree viewing the sun's rays as if they were being shot there by the Death Angel, and predicting multiple skin cancers for all of us. The hither referred-to medical school professor told of a certain, well-known Kansas City dermatologist's technique. If a skin problem he was treating wasn't improving, and the patient was developing the classical "Mayo Clinic stare," indicating imminent transfer to another office, he'd swab the lesion liberally with gentian violet. That way he said he calculated that if he couldn't solve the problem, the next doctor was going to have a hellish time figuring it out.

So the skin is considered the largest organ of the body, and it's out there where it can be seen without special fancy instruments. For all that, it is still hard for most of us to tell *gongylonema pulchrum* from *strongyloides stercoralis*. Those

Continued on page 84



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PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

Physicians must present themselves as human beings, concerned with the well-being of the patient, and act as patient advocate.

Covenant of caring: Missouri physicians

"The Missouri Doctor lives on Main Street." This is the key that serves the common interest of both the profession and the public, by assuring the availability of medical care at the highest standards of quality. The assurance of quality care and protection from unnecessary intrusions into the physician-patient relationship has established the basis of the public awareness program for 1987.

Public opinion of physicians declined considerably in the 1960's and 1970's; however, physicians remained near the top of the rankings, and the latest surveys indicate the decline may be ending.

Physicians must present themselves as human beings, concerned with the well-being of the patient, and act as patient advocate. We must constantly build on the strength of our strong scientific reputation.

A primary attention of the awareness program should be devoted to helping physicians earn the respect they deserve. Physician-patient encounters number 3.5 million each day in the United States, and these encounters should become a focal point of awareness programming. One danger exists that the public may interpret any awareness activities as a slick approach and as self-serving. It is important to create issue-specific awareness campaigns which explain developing issues and their various impacts on medical care. Such issues as indigent health care, liability insurance, fee freeze, mandatory assignments, and alternate delivery systems are but a few.

The nucleus of all communication efforts should be the "Covenant of Caring" between the physician and the patient, with the ability and willingness of the physician to serve as patient advocate and the patient's acceptance that the physician is the patient advocate.

How to accomplish this? Read *Missouri Medicine*, JAMA, AMA News, attend spokesperson training, volunteer for radio and TV interviews, be a member of the speakers' bureau, and obtain MSMA backgrounders on key issues.

Be the Main Street, Missouri Doctor who advocates quality care, access to that care, and overall concern for the health and welfare of your patients and all Missourians. ■

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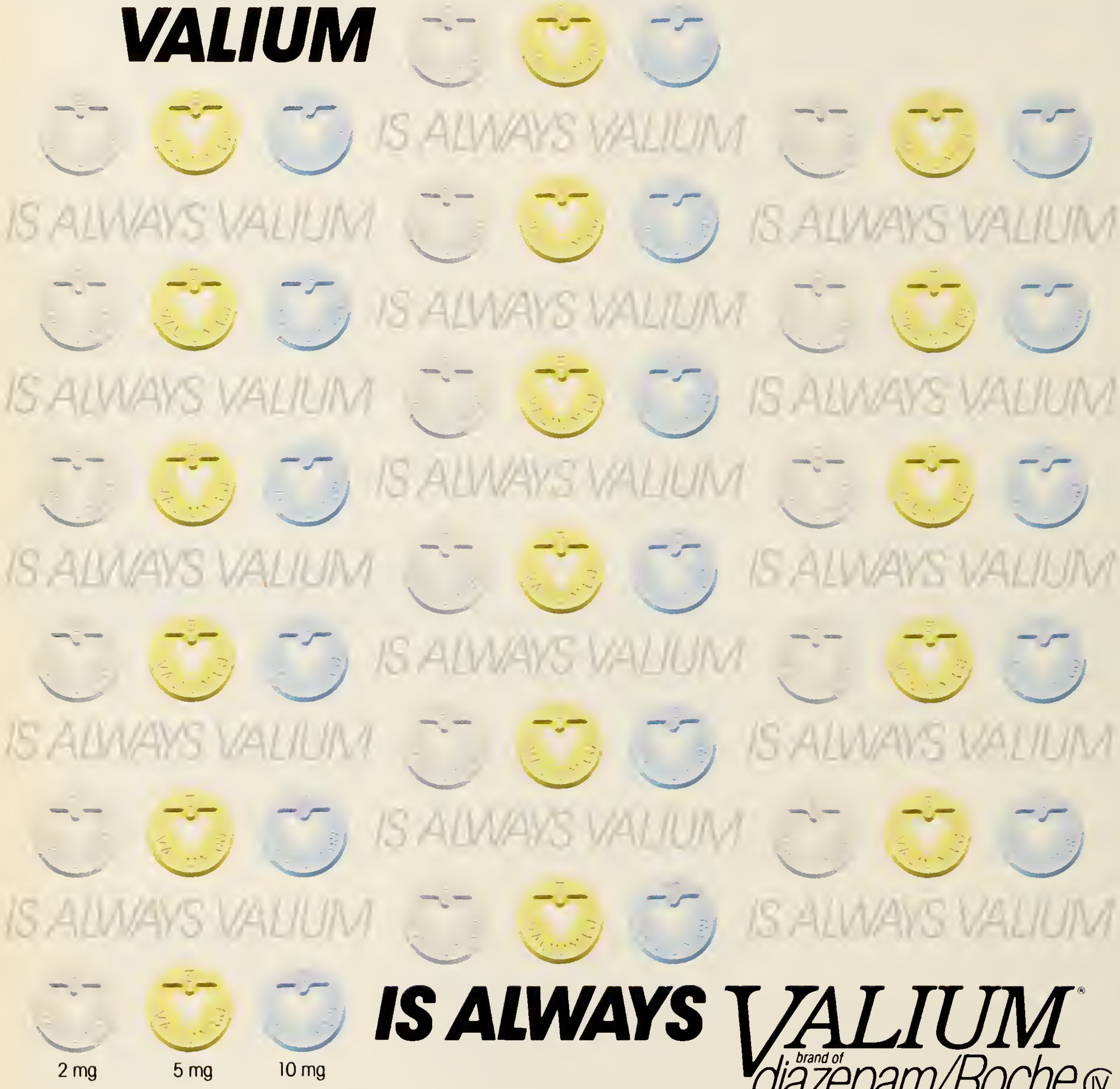
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Auxiliary Message

by Judy Corry
Dot Willcoxon
Auction Co-Chairs

The Auxiliary auction at the MSMA convention will benefit the future of medicine. Won't you please join us?

Auxiliary auction April 2

Your Auxiliary is quite aware of the rising costs of today's medical education. Here is the tuition for a single medical student entering the first year at our Missouri medical schools. Note that these figures do not include living expenses:

- St. Louis University $15,500
- University of Missouri-Kansas City $7,400
- University of Missouri-Columbia $5,520 (out-of-state students pay $8,690)
- Washington University $14,100

How can you help deserving students with financial need to become physicians? Participate in the Auxiliary's auction to benefit the Missouri State Medical Foundation and AMA-ERF.

Mark your calendar for Thursday, April 2 during the Annual Convention at Tan-Tar-A. The auction will take place right after the President's Reception. Snacks and a cash bar will be provided and the auction will conclude in time for dinner.

Our auctioneer is Pat Kelly from Joplin. For the past 20 years he has been a member of the Missouri and National Auctioneer Association. Pat's specialty is conducting fund raising auctions for hospitals, colleges and private schools. He recently conducted the largest fund raising auction ever held in Canada!

He will tempt you with an assortment of trips, dinners, crafts and unique items. All auction items are donated by our Auxiliary members and their physician spouses. Be sure to sign up to attend the auction when you register for the convention. Should you want to donate an item for the auction, call either of us at the following phone numbers: Judy Corry, 417/881-7409; Dot Willcoxon, 417/781-5371.

Remember that you can make a difference in medicine's future.

Join us April 2 at Tan-Tar-A for the Auxiliary auction to benefit our medical students and medical schools. ■

THE MSMA GROUP PURCHASING PLAN FOR PHYSICIANS:

Just as Group Purchasing continues to save hospitals money, these same money-saving opportunities are now available to individual physicians and group practices.

The Missouri State Medical Association now sponsors the group purchasing program offered by Medical Economics Group Associates, Inc. (MEGA)

MEGA has simply combined the purchasing needs of ALL physicians to form one large price-negotiating force for the benefit of its members in Missouri . . . and nationally.

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FOR MORE INFORMATION, SEND THIS COUPON TO:

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St. Louis, Missouri 63144
(314) 962-8120 (call collect)

TOLL FREE:
1-800-231-4545
WAIT FOR THE COMPUTER
TONE, THEN DIAL 1116

Benefits for the MSMA Group Purchasing Plan by MEGA:

- ○ Savings range from 10% to 70%.
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- ○ You order directly from the supplier and orders are shipped directly to you.
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- ○ Trained MEGA Representatives can assist your staff in contract interpretation and other purchasing needs.
- ○ Newsletters keep you informed of Group activities.
- ○ Low monthly Administration Fee based on purchases . . . as low as only 1%.
- ○ As membership grows . . . so does our CLOUT . . . and so does your savings.

Yes, I would like to receive additional information about MEGA's Group Purchasing Plan sponsored by the Missouri State Medical Association.

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Practice Management

by George S. Conomikes

Reducing your collection costs

"My collections rate is 95%," says one GP.

"Gee, mine is only 90%," says his OB/GYN neighbor.

Yet that GP and that OB/GYN practitioner didn't count two things.

1. The cost of collecting.
2. How long their money was tied up.

If it costs you 3% of your gross billings to maintain a 95% collections rate and it takes you about four months to collect that money, then you are not much better off than the 90% collections OB/GYN man whose collections cost may run only 1% and who takes about 45 days to collect his money.

You should collect for office visits when the service is rendered. This is my opinion as well as that of my colleagues and of many experienced physicians. The logic is simple: If your office visit charge is $30 and it takes four statements to collect at an average cost of 75 cents per statement, then two things follow:

1. It's costing you $3.00 (or 10%) to collect your $30.
2. You don't get *your* money for 120 days.

Therefore, you can significantly reduce your collections costs and increase your cash flow (get monies in faster than previously) by improved office-visit collections. How do you go about this?

1) **Doctor involvement.** Ask the patient to pay: "Mrs. Smith, please pay Susan on your way out."

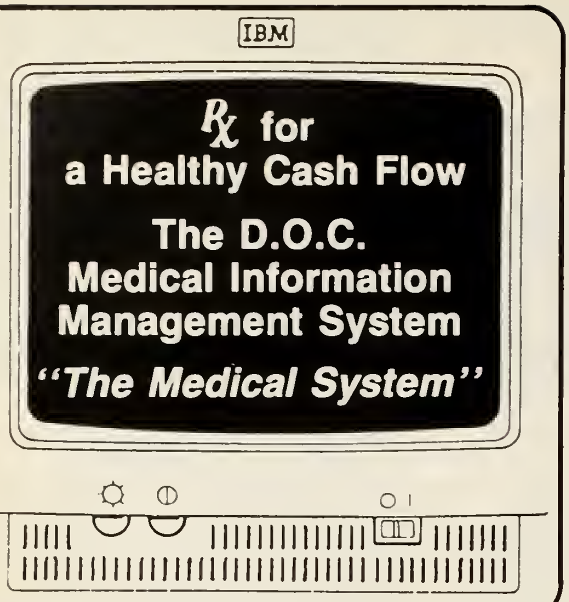
2) **Charge tickets.** Give the patient a charge slip on which you write a specific dollar charge ($30.00 — not a code) for the service rendered. In this way, the patient *sees* the charge and is more prepared to pay. A good charge slip has preprinted spaces for "office visit," "lab," "injections," etc., next to which you can write in specific dollar amounts.

3) **A place to pay.** Patients are reluctant to pay at a reception window in front of other waiting patients. Have a more private counter or desk at which patients can pay and make new appointments on the way out and out of view of the reception room.

4) **The "right" employee and the "right" words.** The right employee is the one who can ask for money. All she has to say is: "Mrs. Smith, the charge for today's visit is $30." If the patient says, "Bill me," your employee prepares a statement on the spot, gives it to the patient (with an envelope with your address preprinted) and says:

> "Mrs. Smith, we like to be paid for office visits when the service is rendered, and I know you'll remember this on your next visit. Meanwhile, here's your statement and a return envelope. This way you can send your check when you get home. Thanks a lot."

Continued on page 84



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Smoker/Non-Smoker (circle one)

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Address ____________

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Zip ____________ Phone ____________

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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Remember the Unique
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Serum K^+ and BUN should be checked periodically (see Warnings and Precautions).

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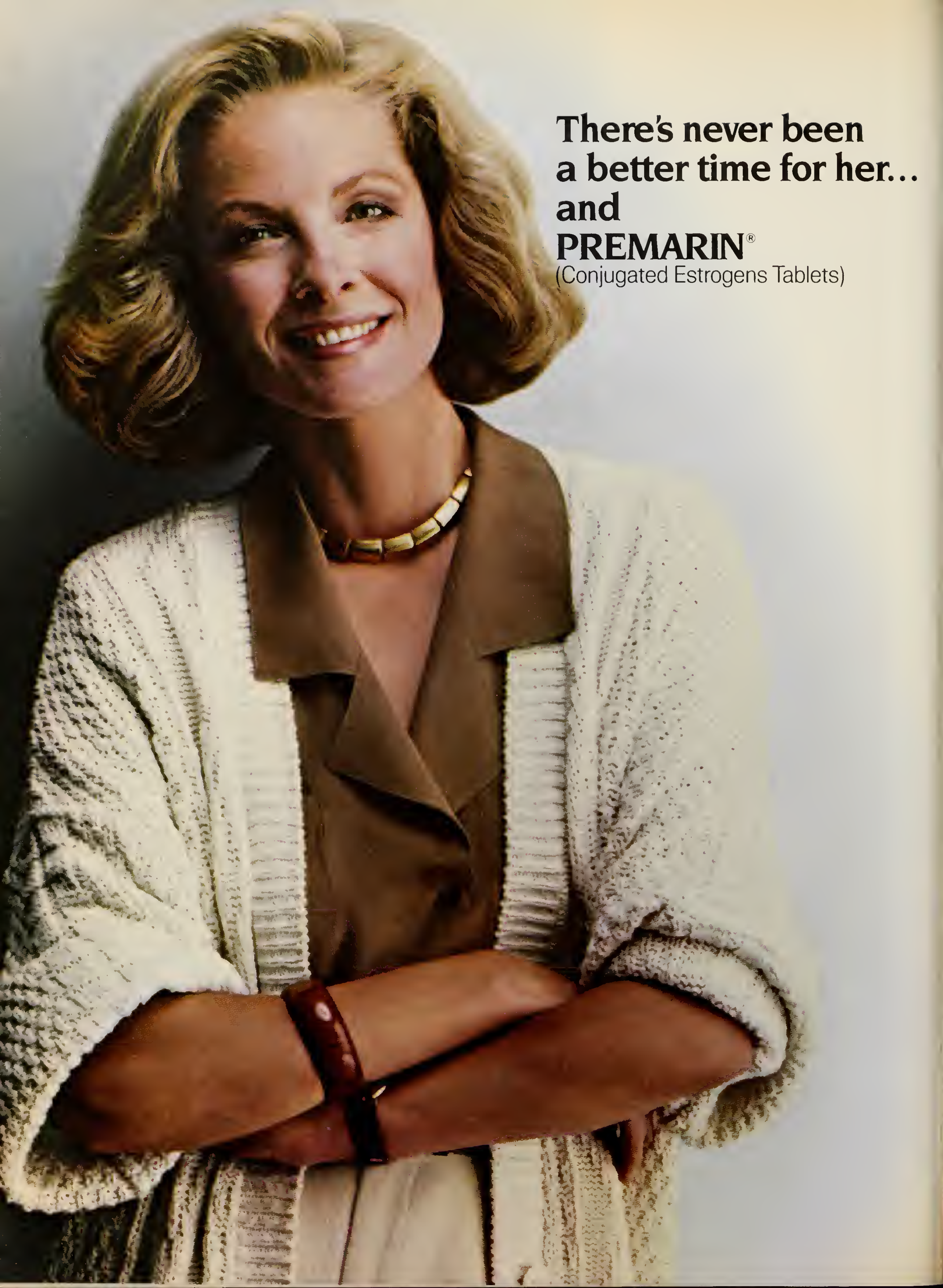
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a better time for her...
and
PREMARIN®
(Conjugated Estrogens Tablets)

Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®

(Conjugated Estrogens Tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®

(Conjugated Estrogens Tablets)

0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

The appearance of these tablets is a trademark of Ayerst Laboratories.

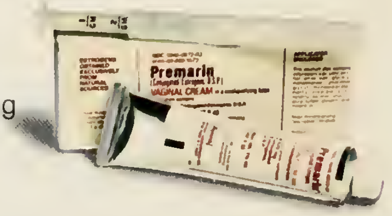
For atrophic vaginitis

PREMARIN®

(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

> 1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA
>
> Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4 5 to 13.9 times greater than in nonusers The risk appears to depend on both duration of treatment and on estrogen dose In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration, it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.
>
> 2 ESTROGENS SHOULD NOT BE USED DURING PREGNANCY
>
> The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare This risk has been estimated as not greater than 4 per 1,000 exposures Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix Although these changes are histologically benign, it is not known whether they are precursors of malignancy Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion) Some of these exposures were very short and involved only a few days of treatment The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000 In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters Tablets are available in 0.3 mg, 0 625 mg, 0 9 mg, 1.25 mg, and 2 5 mg strengths of conjugated estrogens Cream is available as 0 625 mg conjugated estrogens per gram

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass)**. Atrophic vaginitis Kraurosis vulvae Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING)

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease 2 Known or suspected estrogen-dependent neoplasia 3 Known or suspected pregnancy (See Boxed Warning). 4 Undiagnosed abnormal genital bleeding 5. Active thrombophlebitis or thromboembolic disorders 6 A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy)

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans (See Boxed Warning) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use They should be used with caution in patients with cerebral vascular or coronary artery disease Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives For this reason, diabetic patients should be carefully observed Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients Oral contraceptives appear to be associated with an increased incidence of mental depression Patients with a history of depression should be carefully observed Preexisting uterine leiomyomata may increase in size during estrogen use The pathologist should be advised of estrogen therapy when relevant specimens are submitted If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism

The following changes may be expected with larger doses of estrogen:

a Increased sulfobromophthalein retention

b Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay Free T3 resin uptake is decreased, reflecting the elevated TBG, free T4 concentration is unaltered

d Impaired glucose tolerance.

e Decreased pregnanediol excretion

f Reduced response to metyrapone test.

g Reduced serum folate concentration

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow, dysmenorrhea, premenstrual-like syndrome; amenorrhea during and after treatment, increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued, erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair, hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea, increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria, edema; changes in libido

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1 *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1 25 mg or more daily) The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2 *Given cyclically* Female castration. Osteoporosis Female castration—1.25 mg daily, cyclically Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only For treatment of atrophic vaginitis or kraurosis vulvae

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible

Administration should be cyclic (eg, three weeks on and one week off)

Attempts to discontinue or taper medication should be made at three-to-six month intervals

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

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Kawasaki Disease Presenting in an Adult as Inflammatory Diarrhea

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An increasing number of cases of Kawasaki disease is being reported in adults. The authors' case is believed to be unique in that diarrhea was the initial complaint.

Kawasaki disease, or mucocutaneous lymph node syndrome, is a febrile, multisystemic disease whose etiology remains unknown. The majority of cases occur in children under 4 years of age; however, over the past seven years there have been case reports of this entity occurring in adults. We report a case of Kawasaki disease occurring in an 18-year-old man who presented with inflammatory diarrhea.

Case Report

An 18-year-old man had had diarrhea, fever and chills of one week's duration. He complained of watery diarrhea up to 20 times per day, accompanied by slight abdominal discomfort. Three days prior to admission, the patient developed a rash on his arms that then spread to his upper thorax. He also complained of dry, irritated eyes and lips.

His medical history and family history were unremarkable. He denied drug allergies and was taking no medications. The patient reported 1½ pack-years of cigarette smoking and denied illicit drug use.

Physical examination revealed the patient to be in moderate discomfort. Temperature was 102.0° F, BP 110/60, pulse 80 with no orthostatic changes. Other findings revealed conjunctivitis without exudate and dry, red, fissured lips. The oropharynx was very red without exudate, as was the tongue, which also had prominent papillae. An examination of the neck revealed two enlarged, bilateral posterior cervical nodes measuring 2 x 2 cm. The nodes were only mildly tender. His skin showed a polymorphous, blanching exanthum present on the upper thorax, back and upper extremities. The palms and soles were reddened.

The patient's diarrhea and rash resolved four days after admission. He remained febrile for 10 days, with fever spikes occurring in the evening, ranging from 100.2° F to 104.0° F, unresponsive to acetaminophen. (Fig 1) On the tenth hospital day, desquamation of the palms and soles occurred, and his fever resolved the next day. He received no antibiotics during his hospitalization and was discharged on his 14th hospital day on aspirin therapy.

Laboratory tests on admission gave the following results: hemoglobin 15.5 g/dl; hematocrit 41.3%; WBC count 16,100/m^3, with 44% segs, 42% bands, 13% lymphocytes, 4% monocytes; platelet count 350,000/cu mm; alkaline phosphatase — 290 U/l (normal 50-136); lactic dehydrogenase (LDH) — 175 U/l (normal 100-250); serum glutamic oxaloacetic transaminase (SGOT) — 70 U/l (normal 22-47); gamma-glutamyl transpeptidase (GGTP) — 138 U/l (normal 15-85); and normal bilirubin, lipase and amylase levels. Throat, blood, stool, and urine cultures were all negative. Results of stool examination for ova and parasites were negative; however, examination for fecal leukocytes gave positive results. Flexible sigmoidoscopy findings to 60 cm were unremarkable. Electrocardiogram revealed nonspecific ST-T wave changes in the anterior chest leads. Echocardiogram revealed right and left ventricular enlargement with borderline-normal systolic function.

Serologic tests for hepatitis A and B, syphilis, Epstein-Barr virus and cytomegalovirus were negative for acute disease.

Subsequent laboratory values revealed a peak WBC count of 20,900/mm^3 on the 10th day, the same day desquamation occurred. Day 10 also marked the peak values for alkaline phosphatase at 813 U/l, SGPT — 88 U/l, SGOT — 103 U/l, and platelet count 776,000/mm^3.

Discussion

Kawasaki disease was first described in Japanese children in 1961 by Kawasaki, who also made the observation that 75% of the cases occurred in infants and children under 4 years of age.[1]

The patient in this report met all six criteria for the diagnosis of Kawasaki disease, described in 1974 by the Japan Mucocutaneous Lymph Node Syndrome Research Committee.[2] Five of these criteria are required to establish the diagnosis. The criteria include: 1) Fever lasting five or more days, unresponsive to antibiotics; 2) Congestion of ocular conjunctiva; 3) Dry lips with redness and fissuring, "strawberry" tongue, diffuse reddening of the oropharyngeal mucosa; 4) Early reddening of palms and soles with edema followed by desquamation; 5) Polymorphous nonvesicular exanthem with truncal distribution; 6) Acute nonsuppurative enlargement of cervical lymph nodes. In addition, the Centers for Disease Control have stated that the illness must not be explicable by a well-known etiology.

Several cases of Adult Kawasaki disease have been described in the literature.[3-12] Recently, it has been stated that fewer than 20 cases of Adult Kawasaki disease have been reported worldwide.[13] Adult cases in Japan have been described with documented carditis and coronary artery lesions typical of those found in children.[12] Therefore, it seems there is little doubt that Adult Kawasaki disease does exist. However, a recent review of 12 reported cases in the United States indicated that only two cases met all criteria for this illness.[14]

The illness is characterized by a triphasic progression. The acute phase, which lasts about 10 days, is characterized by fever, conjunctival congestion, involvement of the lips and mouth, and reddening and swelling of the palms and soles. Other significant symptoms and signs include pyuria and urethritis, aseptic meningitis, abdominal pain, obstructive jaundice, hydrops of the gallbladder, arthralgia, and arthritis. Previously, diarrhea in Kawasaki disease had been described as non-inflammatory and non-bloody.

The subacute phase occurs between the 10th and 25th days and is characterized by desquamation of the skin of the palms and soles. Arthralgias, arthritis, and cardiac abnormalities may become manifest during this period. The convalescent phase, which may last up to two months, begins when clinical symptoms and laboratory abnormalities resolve.

The differential diagnosis in the acute phase of the illness may be quite extensive. It should include enteroviral infections, serious staphylococcal and streptococcal infections, hepatitis-B, Stevens-Johnson syndrome, leptospirosis, Rocky Mountain spotted fever, drug reactions, toxic shock syndrome, rubeola, roseola, mononucleosis and lupus erythematosus. This list is not meant to be exhaustive. In the subacute phase when desquamation occurs, the differential diagnosis should be narrowed considerably.

Laboratory findings usually include a leukocytosis with left shift, mild anemia and thrombocytosis. Urinalysis frequently shows sterile pyuria and proteinuria. Acute-phase reactants demonstrate elevated levels. Hepatic profile may show a mild transaminasemia. Cerebrospinal fluid analysis may show a mild pleocytosis with normal glucose and protein. Blood cultures and serologic analysis for infection will be negative. Blood cultures and serologic analysis for infection will be negative. If diarrhea is present, cultures of stool for ova and parasites will be negative. However, as in the case we describe, white cells may be present in the stool.

The most serious complications of the disease involve coronary artery aneurysm, thrombosis and infarction.[15] The effect of aspirin therapy on these complications has not been fully studied. However, it seems prudent to begin aspirin therapy when the diagnosis is made.

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Transient Pancytopenia as an Initial Manifestation of Hereditary Spherocytosis

A Case Report

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Pancytopenia is an uncommon finding in patients suffering from hereditary spherocytosis (HS). The authors' case illustrates the importance of including HS in the differential diagnosis in previously healthy pediatric patients who present with pancytopenia.

Hereditary spherocytosis (HS) is a relatively common autosomal dominant red cell membrane disorder with an estimated incidence of one in 5,000 in the North American population.[1] The underlying defect appears to be in a component of the red blood cell membrane protein structure, the structure of "spectrin."[2] This defect leads to the production of spherocytic erythrocytes whose half-life is shortened by excessive trapping in the spleen. Clinical features of this condition vary widely in severity, and include anemia (50%), elevated reticulocytes, splenomegaly, and typical microspherocytes in peripheral blood. In about 50% of patients, clinical manifestations begin in the neonatal period.[3]

Among the complications of HS are hemolytic and aplastic crises. Controversy exists over the relative frequency at which each occurs, but the aplastic crisis is probably more common.[4] The hematologic manifestations of the aplastic crisis usually include rapidly falling hemoglobin and reticulocytopenia, with normal levels of white blood cells and platelets, frequently following an acute febrile illness. However, an occasional patient may also be found to have leukopenia and thrombocytopenia at the time of a crisis. In 1948, Dameshek and Bloom reviewed seven such cases,[5] and six similar cases were reported by Owren the same year.[6] Since that time, however, new data have been collected regarding the pathophysiology of the aplastic crisis, much of which strongly emphasizes the role of parvovirus infection. In the context of reporting a newly diagnosed case of HS presenting with pancytopenia, we review what is currently known about the possible mechanisms involved in producing this pancytopenia.

Case Report

A 15-year-old white boy was admitted to University of Missouri Hospital, Columbia, because of fever, anemia and splenomegaly. He previously had had no signs of hemolytic anemia, but there was a strong family history of hereditary spherocytosis. His younger brother with HS had been discharged from the hospital a few days earlier with aplastic crisis following a febrile illness, characterized by anemia, but not pancytopenia. His father, also with documented

Table

Blood counts during aplastic crisis

Days After Onset of Illness	*WBC per* mm^3	*Granulocytes per* mm^3	*HCB (GM%)*	*Reticulocytes (%)*	*Platelets per* mm^3
1	4400	3872	10.6	—	"normal" estimate
4	1900	589	5.9*	.7	126,000
5	2600	936	7.8	.8	123,000
6	3100	992	7.4	.1	71,000
7	3000	1590	6.8	.1	110,000
8	3500	1925	6.2	.1	139,000
9	6200	3472	7.2	.1	299,000
10	10800	6048	6.6	—	—
12	11000	6600	7.1	6.4	378,000
13	6400	3904	7.3	19.1	316,000
45	3700	1554	10.7	2.9	195,000

*Transfusion

HS, had died of sepsis following splenectomy at 33 years of age.

The patient was feeling well until four days before admission, when he developed fever to 104° F and shaking chills associated with headache. He began to have dull abdominal pain early the following morning and had several episodes of emesis. On initial examination, he was febrile with no detectable focus of infection. The spleen tip was palpable 2 cm below the left costal margin in the left midclavicular line. His white blood cell count at that time was 4400/mm^3, with 86% polys, 4% bands and 8% lymphocytes. Hemoglobin was 10.6 gm% and MCHC was 36 gm%. Because of persistent headache, dizziness, weakness, and fever, he was reexamined a few days later. Laboratory studies at that time revealed WBC count of 1600/mm^3, with 25% polys, 17% bands, and 75% lymphocytes. Hemoglobin was 5.9 gm%, platelet count was 125,000/mm^3, and spherocytes and atypical lymphocytes were seen in peripheral blood.

Physical examination revealed an alert, but tired, pale, slightly icteric adolescent. The spleen was palpable 7 cm below the left costal margin and was slightly tender.

Laboratory studies revealed serum total bilirubin of 2.1 mg% with direct fraction 0.3 mg%. Monospot test was negative, and unincubated osmotic fragility was consistent with HS. Nasopharyngeal virus culture was negative.

His initial treatment consisted of packed red blood cell transfusion, which raised the hemoglobin to 7.8 gm%. The table depicts the nadir and recovery of each of the blood counts, with the lowest white count occurring on the fourth day, and that of platelets and reticulocytes on the sixth day. By the seventh day after onset of illness, granulocytopenia and thrombocytopenia had resolved; reticulocyte count was rising by the 12th day. He was discharged after 10 days.

Discussion

Aplastic crises, characterized by fever, rapidly developing anemia, and reticulocytopenia, are well known to occur in patients with hereditary spherocytosis. The occurrence of pancytopenia at the time of crisis, however, is infrequent, and can divert attention from early diagnosis. In some cases of HS, aplastic crisis concurrent with a febrile episode may be the first manifestation of the disease, as was the case in this patient.

In the few reported cases of crisis-associated pancytopenia, the onset of leukopenia and thrombocytopenia have occurred simultaneously with anemia, and our patient progressed similarly; a low platelet level was associated with purpura in one previously reported case.[6] Recovery characteristically begins spontaneously around the 10th day after onset of a crisis and is heralded by increased leukocytes, followed soon by increased platelets, and finally by reticulocytosis. Leukocytosis and thrombocytosis may occur during recovery.[6]

The mechanisms which produce pancytopenia are not completely understood. However, the inciting event appears to be infection, and a viral agent has been suspected for some time.[7] In a review of 64 cases of aplastic crisis of HS, Mortimer showed epidemiologically that the distribution of cases and the pattern of spread were compatible with an infectious etiology and were likely due to a single agent.[8]

Some of the first investigations to look at the pathophysiologic mechanisms producing pancytopenia were carried out in 1948 by Owren[6] and Dameshek et al.[5] The latter pointed out that the spleen, as compared with its previous size, often became considerably enlarged during a crisis. This led him to postulate that exaggerated hemolysis in the spleen caused anemia. However, bone marrow examination performed during a crisis suggested anemia was due to an arrest of the maturation of erythroid precursors. To further complicate his thinking, the presence of autoagglutinin in serum suggested yet a third mechanism, one of autohemolysis. Leukopenia was explained by a "block" in release of mature leukocytes from bone marrow, and thrombocytopenia by a maturation arrest of marrow megakaryocytic precursors.[5]

Owren,[6] in contrast, suggested that all cell lines were diminished in peripheral blood due to maturation arrest of precursors in bone marrow, a conclusion supported by concurrent bone marrow study.

More recently studies have documented the role of serum parvovirus-like virus (SPLV) in inducing aplastic crisis in HS.[9-11] The mechanism by which this virus causes aplastic crisis in HS has also been recently studied. Mortimer et al[12] demonstrated that SPLV-containing sera inhibit erythroid and myeloid colony formation in bone marrow culture, thus providing direct evidence that virus cytotoxicity may be the mechanism of aplasia. Interestingly, these findings are consistent with the earlier studies on the aplastic crisis,[5, 6] but more importantly, the findings link a specific viral infection to the pathologic processes occurring in bone marrow. In our patient, nasopharyngeal viral culture was negative, but this does not rule out the possibility that acute parvovirus infection could have been documented serologically.

In summary, although pancytopenia infrequently occurs in patients with HS in aplastic crisis, severe bleeding and overwhelming bacterial infection have not been reported, and the course of recovery is uniformly uneventful. Packed red blood cell transfusion may be required for symptomatic anemia.

It appears that direct virus cytotoxicity to bone marrow plays a major role in producing anemia and leukopenia during aplastic crisis, but the processes that lead to thrombocytopenia remain unclear and relatively less studied. Because pancytopenia occurs infrequently in HS, and because it was an initial manifestation of disease in our patient, early attention to diagnosis of hereditary spherocytosis was diverted. This is a reminder that hereditary spherocytosis should be considered in the differential diagnosis of the previously healthy pediatric patient who presents with pancytopenia.

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Cervical Conization

Laser vs. Cold Knife

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The use of a carbon dioxide laser for excisional cervical conization is a relatively new treatment option for cervical neoplasia. This study compares the laser procedure to cold knife conization and discusses whether the laser offers any advantages over the older technique.

The carbon dioxide laser is a new treatment modality being used increasingly in the treatment of cervical, vaginal and vulvar intraepithelial neoplasia, and condyloma acuminata. The carbon dioxide (CO_2) laser is also being employed in pelvic surgery for infertility and in conjunction with endoscopic procedures. The CO_2 laser has been used for excisional conization of the cervix in the treatment or evaluation of patients with cervical intraepithelial neoplasia since 1980. This study was undertaken to determine whether laser excisional conization offers any advantage over cold knife conization regarding operative time, operative blood loss and postoperative bleeding.

Material and Methods

Cervical conization was performed on 113 patients from Jan. 6, 1982, through Jan. 24, 1984, at Truman Medical Center West, Kansas City, Mo. Patients came from both the private and the clinic services. The operating physicians were both residents and attending staff.

Excisional conization using the Sharplan model 791HE CO_2 laser with a power density of 11,000 to 22,000 watts/cm^2 was performed on 59 patients (52%). In three patients, laser excisional conization was initiated but completed as cold knife conizations due to excessive bleeding. These patients are included in the latter group. Residents were the operating physician on 32 (54%) of 59 laser conization patients.

Laser conization was performed under general anesthesia with the patient in the dorsal lithotomy position. A weighted vaginal speculum and Deaver retractor were used for exposure. Hemostatic and traction sutures were placed in the cervix laterally at the 3 and 9 o'clock positions to ligate the descending cervical branch of the uterine artery. Three percent acetic acid was applied to improve visualization of the lesion with the operating colposcope. The peripheral extent of the cone, encompassing the lesion and transformation zone, was outlined with the laser beam. This incision was extended into the cervical tissue to a depth of 10 mm. A single tooth tenaculum was then used to manipulate the cervix to allow for angulation towards the apex of the cone. The CO_2 laser beam was directed straight to the patient, and the cone specimen was moved in the required ways to obtain a cone-shaped specimen. At the completion of the procedure, the base of the cone was coagulated with the laser at a power denisty of 3,000 watts/cm^2. If necessary, gelfoam was used for hemostasis.

In two patients, a combination of laser evaporation and conization was performed. Both of these patients had extensive lesions and would have required excision of a large area of cervical tissue. The periphery of the proposed cone was outlined. Laser evaporation of the diseased tissue outside this was performed to a depth of 5 mm. This procedure saved a large amount of cervical stroma from destruction.

Cold knife conization was performed on 54 patients (48%). A resident was the operating physician on 47 (92%) of these 54 patients. The standard technique for cold knife conization was used. With the patient under general anesthesia and in the dorsal lithotomy position, a weighted vaginal speculum and Deaver retractor were used to place hemostatic sutures at the 3 and 9 o'clock positions. A Schiller stain was performed. A circular incision was made outside the non-staining area with a No. 11 blade and a cone-shaped portion of the cervix was removed. A Sturm-

Table 1

Number of pregnancies achieved by 113 patients prior to undergoing conization.

Gravida	*Laser*	*Cold Knife Cone*
0	16	1
1	9	2
2	11	13
3	11	12
4	3	10
5	6	15
?	3	1

dorf, or circular running locking suture, was used for hemostasis.

All conizations were performed as outpatient procedures, and no vasoconstricting agents were used to infiltrate the cervix. The patients were allowed to resume normal activities the day following the procedure. Postoperative bleeding was defined as bleeding that required surgical or chemical measures to obtain hemostasis which occurred within six weeks of the operation. The patients were examined at two and six weeks and at three, six, and nine months post procedure before a diagnosis of successful treatment was made (statistical analysis by Chi square).

Results

The laser cone patients ranged in age from 19 to 61 years with a mean of 31.5 years. The cold knife conization patients ranged in age from 16 to 88 years, with a mean of 31.9 years. The gravidity of the patients in these two groups is shown in Table 1. The histologic diagnoses post-conization are shown in Table 2.

The mean operating time for the laser excisional conizations was 42.3 minutes (range 11 to 133 min.) compared with 41.5 minutes (range 8 to 130 min.) for the cold knife conizations and the difference is not statistically significant ($p = 0.8$). Blood loss at operation was assigned to one of four categories — less than 50 ml, 51-100 ml, 101-150 ml, and greater than 150 ml (Fig 1). Patients with laser conizations had less blood loss in all the four groups as compared to patients with cold knife cones, and the differences in the frequency of distribution were statistically significant ($p = 0.0001$). The distribution of postoperative bleeding for both groups of patients is seen in Fig 2. There was no statistically significant difference in postoperative bleeding between the groups of patients ($p = 0.08$).

Discussion

Since the introduction of colposcopy for the triage of patients with abnormal Papanicolaou smears, the number of cervical conizations has markedly decreased. However, approximately 20% of patients with abnormal Papanicolaou smears still require conization for evaluation or therapy. Conization of the cervix involves removal of the transformation zone as well as approximately two-thirds of the endocervical canal. The procedure may be both therapeutic and diagnostic in the management of cervical intraepithelial neoplasia. Currently accepted indications for conization are:

1. Positive endocervical curettage.
2. Inability to completely visualize the extent of cervical intraepithelial neoplasia or the transformation zone colposcopically.
3. Disagreement between Papanicolaou smear and colposcopic or histologic findings.
4. Microinvasive carcinoma diagnosed on cervical biopsy.
5. Noncompliant patients with cervical intraepithelial neoplasia.

Prior to 1980, conization involved the use of a scalpel for sharp excision of a conical piece of cervical tissue. Many different blade designs and techniques have been used. This was followed by suturing or cautery for hemostasis. General anesthesia and hospitalization were required. Complications included excessive blood loss, cervical stenosis, incompetent cervix, premature labor, and disappearance of the transformation zone into the lower endocervical canal, making the colposcopic evaluation of these patients difficult.[1-6]

The CO_2 laser, when employed with the operating colposcope, allows precise destruction or excision of tissue to any depth or width desired by the surgeon. Infection is virtually nonexistent after laser surgery, probably because of a sterile wound, the absence of necrotic debris, and the sealing of lymphatic and blood vessels.[1, 3, 7-10] In our study, patients with laser conization had less intraoperative blood loss as compared to patients with cold knife cones. However, the operating time and occurrence of postoperative bleeding were similar for both groups of patients. In a previous report, Larson et al[11] reported decreased operative blood loss with laser cones and no differ-

Table 2

Histologic diagnosis in 113 patients undergoing conization by either CO_2 laser or cold knife technique

	CIN I	*CIN II*	*CIN III*	*CIS*	*Other**	*Unknown*
Laser	7	10	21	7	14	0
Cold Knife	10	9	19	6	8	2

*Includes invasive cancer, microinvasive cancer, cervicitis, squamous metaplasia.

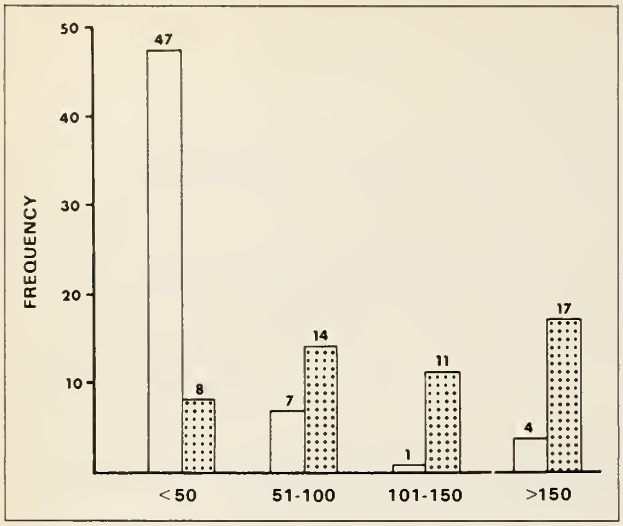

Fig 1: Operative blood loss in ml. at cervical conization. Blood loss is assigned to one of four categories. The frequency of distribution of blood loss for laser and cold knife conization are shown. (p = 0.0001). Open bar = laser technique. Dotted bar = cold knife technique.

ence in operating time when comparing laser and cold knife cones. It should be emphasized that in three of our patients laser excisional conization was aborted because of excessive bleeding. In such cases, the CO$_2$ laser energy is absorbed by the blood and becomes ineffectual for tissue excision. All three of these patients were multigravid; two were in the luteal phase of the cycle, and the third had been amenorrheic for four months. In a previous report by Baggish[1] operative bleeding occurred in 18 patients during laser therapy to the cervix, and 17 of them were in the luteal phase of their menstrual cycle.

The ability of the CO$_2$ laser to obtain a satisfactory histological specimen to allow accurate histologic diagnosis is comparable to cold knife conization, the extension of thermal injury being less than 300 microns.

Before a definite role for laser excisional conization can be established, further evaluation of other factors is necessary. First, is the new squamo-columnar junction visible in the ectocervix? This becomes important when further colposcopic evaluation of these patients is necessary. This has not yet been answered in a satisfactory manner.[5, 8] Second, is there a lesser incidence of stenosis with laser excisional conization? A previous report[5] has indicated an incidence of 0.8% cervical stenosis following laser conization as compared to 4.7% following cold knife cone. Third, what is the fertility rate after laser cone? Other authors[11, 12] have reported favorable results in the area of pregnancy and future fertility. Fourth, are cure rates improved with laser excisional cone? It is reasonable to assume that due to the colposcopic visualization of the procedure, therapeutic results will not be inferior as to those obtained with the cold knife cone. In a recent report[5] the rate of involvement of the resection margins of the cone specimen was about 10% for patients treated by laser conization as compared to 20% for patients treated by cold knife conization, the difference being statistically significant. A future report of our group of patients addressing these issues will follow. Until these questions are answered with supporting data, laser excisional conization remains only an alternative to cold knife conization and not a replacement.

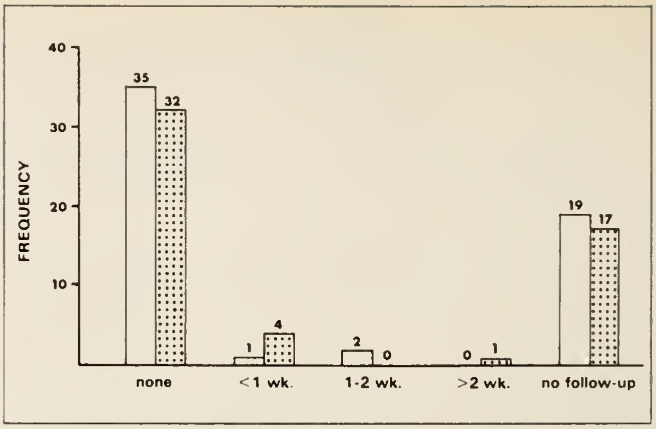

Fig 2: Postoperative bleeding is categorized according to the time of occurrence post-conization. The frequency of distribution is shown. (p = 0.08). Open bar = laser technique. Dotted bar = cold knife technique.

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Special Article

HCFA's Plan for Implementation of the Medicare Second Opinion Program

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Six months after the passage of legislation (P.L. 99-272) mandating a second opinion program under Medicare, the Health Care Financing Administration (HCFA) has begun to share its tentative plans regarding program implementation.

The second surgical opinion program as proposed, has far-reaching implications for Missouri physicians, Medicare beneficiaries, and the hospitals. Therefore, it is critical for physicians to understand the second opinion program thoroughly and to express their views to the government on this issue.

While the legislation requires the implementation of the Medicare second opinion program by January 1, 1987, HCFA was unable to meet this date. Due to the administrative difficulties in implementation of this program, it will likely be at least mid-February before the final program directions are provided to the peer review organizations (PROs) for implementation.

Table 1 outlines the 13 high-volume procedures that have been identified by HCFA. Each PRO must select at least ten of these procedures. If some of the procedures are not problems in a PRO area, the PRO may select additional procedures provided there is appropriate documentation justifying selection of different procedures. Table 1 also outlines various specialists who are qualified to provide second surgical opinions.

HCFA selected these 13 procedures using the following guidelines:

1. The procedure is one which could be delayed without undue risk to the patient. All emergency procedures are excluded.
2. The procedure is sufficiently costly or performed in sufficient volume among Medicare patients to make it possible that program savings could result from an effective review.
3. There is a basis for concluding that preprocedure/preadmission review is likely to be cost-effective; that is, that there is a high rate of nonconformation by another qualified physician or a procedure is performed at varying rates in different geographic areas, or for other reasons the 100% procedure review on a preadmission basis would be cost-effective.

In the state of Missouri, the Board of the Missouri Patient Care Review Foundation (MPCRF) has selected ten procedures from the list provided by HCFA. These are indicated by asterisks in Table 1 (excludes pacemaker insertion, complex peripheral vascularization, and bunionectomy). Table 2 lists the top 20 procedures in the state of Missouri for Medicare patients in 1985.

Table 1

Proposed List of Procedures
and
Specialists Qualified to Perform the Second Opinion

* (1)	Cholecystectomy	Gastroenterologist, Internist, General Surgeon, Abdominal Surgeon
* (2)	Carotid Endarterectomy	Neurologist, Internist, Cardiologist, Thoracic Surgeon, Vascular Surgeon, Neurosurgeon
* (3)	Major Joint Replacement	Rheumatologist, Physiatrist, Orthopaedic Surgeon
* (4)	Coronary Artery Bypass with Graft	Cardiologist, Internist, Thoracic Surgeon, Cardiovascular Surgeon
* (5)	Percutaneous Transluminal Coronary Angioplasty	Cardiologist, Internist, Cardiovascular Surgeon
* (6)	Cataract Surgery (with or without lens implant)	Ophthalmologist
* (7)	Laminectomy	Neurosurgeon, Orthopaedic Surgeon, Neurologist, Physiatrist
(8)	Complex Peripheral Revascularization (except when performed to salvage a limb)	Internist, Vascular Surgeon, General Surgeon
* (9)	Hysterectomy (except when carcinoma or vaginal plastic repair is involved)	Gynecologist, General Surgeon
(10)	Bunionectomy	Orthopaedic Surgeon, Podiatrist
*(11)	Inguinal Hernia Repair	General Surgeon, Family Practitioner
*(12)	Transuretheral Resection of the Prostate	Urologist, Internist
(13)	Pacemaker Insertion	Cardiologist, Internist

MPCRF will have to perform review on each of these procedures, regardless of whether the procedure is to be performed inpatient or outpatient. A physician would have to call the PRO office to seek approval prior to performing the procedure on any Medicare patient. The PRO would then be required to review the case, resulting in an approval, denial, or determination that the case warrants a second opinion. If a denial is made, the physician and hospital would not be paid if they choose to perform the procedure. If approved, it will be subject to retrospective review to assure appropriateness and the accuracy of the information. Cases on which the PRO is unable to make a determination will be subject to review by a second physician. While not requiring preprocedure review, all emergency procedures will be reviewed by the PRO prior to payment being made to the hospital and the physician. A pattern suggesting purposeful avoidance of the review requirement could, however, be cause for sanction.

Who May Perform a Second Opinion

It is HCFA's intent that physicians participating in the Medicare program or those who will accept assignment are eligible to perform second opinion for the PRO. The PRO will be instructed to contact nonparticipating physicians to obtain their cooperation in accepting assignment for second opinions only. It will be the responsibility of the PRO to maintain lists of physicians participating in the second opinion program by specialty for distribution to Medicare beneficiaries. Since the law specifies that the Secretary shall, for each procedure, identify the type or types of board-certified or board-eligible specialists who may provide a second opinion, the Secretary intends to use the specialists listed in Table 1 to be able to provide second opinions. Qualifications and disqualifications for second opinion physicians are listed in Table 3. Table 4 highlights facts regarding second surgical opinions in addition to exceptions to second opinions.

Proposed Administrative Process

If a PRO is unable to make an approval or denial determination based on its established criteria, the PRO will notify the hospital, the attending physician, and the patient of its decision to ask for a second opinion. The PRO in a letter to the patient will tell the patient to get his records from the attending physician and take them to another physician for second opinion. If the patient experiences any difficulty in obtaining the medical records from the attending physician, the PRO is to provide assistance to the patient in this endeavor, in which case, the PRO may be required to get the record from one physician and send it to another. The PRO will also provide the patient with a list of physicians

Table 2

Missouri Patient Care Review Foundation
Top Twenty Inpatient Operating Room Procedures*
January 1, 1985 — December 31, 1985

Rank	*Procedure*	*Number Performed*
1	Transurethral resection of prostate	6204
2	Total cholecystectomy	3475
3	Extracapsular lens extraction, NOS	3041
4	Open reduction of fracture with internal fixation	2534
5	Wound debridement	1922
6	Transurethral destruction of lesion or tissue of bladder	1814
7	Lysis of peritoneal adhesions	1637
8	Endarterectomy, head and neck	1443
9	Local excision of skin lesion, NOS	1349
10	Total knee replacement	1210
11	Insertion of permanent pacemaker into ventricle, transvenous route	1186
12	Aortocoronary bypass of four or more coronary arteries	1176
13	Removal of coronary artery obstruction	1156
14	Local excision of lesion or tissue of large intestine	1119
15	Femoral head replacement	1074
16	Unilateral extended simple mastectomy	899
17	Repair of indirect inguinal hernia	830
18	Sigmoidectomy	808
19	Right hemicolectomy	774
20	Transurethral biopsy of bladder	756

*__Note:__ Excluded from this list are three procedures that are usually performed in conjunction with some other primary procedure: insertion of intraocular lens prosthesis (N = 4444), intraoperative cholangiogram (N = 1807) and extracorporeal circulation (N = 1286).

Table 3

Specialist Qualified to Give a Second Opinion

A. **Qualifications**

- A second opinion must be rendered by a specialist who is an expert in a specialty related to the proposed surgical procedure. The specialist must be board certified or eligible for board certification.
- Participating physicians qualified to render opinions for the procedures on the list, (Table 1) will be automatically qualified as second opinion specialists.
- Non-participating physicians who will accept as full payment, Medicare reimbursement (i.e. take assignment) for rendering second opinion will be included in the list of qualified second opinion specialists.
- When a procedure can safely and effectively be performed by a specialist other than a doctor of medicine or osteopathy, that person may act — with the approval of the Secretary — as a specialist with respect to specifically identified procedures. That person, however, must be licensed by the State to perform the procedure being reviewed. (For example, if a podiatrist wished to perform a bunionectomy, and the PRO wished the beneficiary to obtain a second opinion, the PRO would furnish the beneficiary with a list of podiatrists and orthopaedic surgeons who meet the qualifications.)

B. **Disqualifications**

- A specialist will be barred from providing a second opinion in a specific case if he or she has a conflict of interest in the case (either financial interest or affiliation with the doctor who rendered the first opinion). Financial interest is defined, for these purposes, as physicians sharing an office practice.
- If PRO records reflect that a specialist has been grossly unreliable, PRO will remove the specialist's name from the list of qualified second opinion specialists.
- A non-participating physician may withdraw his/her name from the second opinion specialist list at any time but should notify the PRO at least 60 days before the withdrawal is effective.

who are either board-eligible or board-certified who can provide a second opinion.

It will be the responsibility of the patient to go to the second opinion physician and provide him/her with the record for the purpose of obtaining a second opinion from this physician. The second opinion physician will then notify the PRO of the determination. Under the proposed procedure, it will be the choice of the patient whether to go back to the first physician or stay with the second physician for the surgery.

The notification from the second opinion physician to the PRO will not only complete this loop, but will also ensure payment for the procedure if the patient decides to undergo treatment. The operation of a second opinion program will also require the PRO to interact with the fiscal intermediary, hospitals, ambulatory surgical centers, and carriers; therefore, adjustment to the present Memorandums of Understanding with those entities will be necessary to accommodate new data specifications.

Discussion

The federal government continues to become increasingly involved in the practice of medicine. With the second opinion program, additional restrictions are being placed on the physicians relating to performance of surgical procedures. Involving beneficiaries in treatment decisions was the impetus for establishment of the Medicare second opinion program. We hope this aspect of the program will not be overlooked when final implementation plans are developed.

It is our present understanding that to explain the second opinion program to beneficiaries, the Department of Health and Human Services has been sending the following statement with the Social Security checks.

> "Beginning January 1, 1987, a new law permits Medicare to require a second opinion for some surgical procedures. Medicare

Table 4

Second Surgical Opinion Facts

- It is expected that only in limited situations second opinions *will be required;* i.e., in a case where the PRO is not sure that another method of treatment (or other medical alternatives) are more appropriate therapeutic next steps. (Medication, therapy, or frequent examinations may be more appropriate.)
- The second opinion must be provided by a specialist identified by HCFA, as a qualified specialist. (Table 1)
- The total cost of the second opinion, including any needed diagnostic services rendered on an outpatient/ambulatory basis, will be reimbursable under Medicare. Therefore, the second opinion specialist must be a Medicare participating physician or be willing to accept assignment for rendering second opinions.
- When rendering a second opinion, the doctor will be responsible to provide the PRO with a statement that he/she has examined the patient and what conclusion was reached.
- After the second opinion, it remains the patient's decision whether to proceed with the elective procedure, and Medicare payments will be made for the procedure regardless of the outcome of the second opinion.
- If the two opinions disagree and the beneficiary would like a third opinion, Medicare will also pay in full for that service; however, the beneficiary must choose a physician from the second opinion list.
- While there are some exceptions to the second opinion requirement, generally when a second opinion is required and not obtained, denial is automatic and there is no Medicare reimbursement for the procedure.
- However, once the second opinion is obtained, Medicare will reimburse for the procedure regardless of whether the first and second opinions agree. Medicare pays for the procedure — even if the second opinion is that the procedure is not necessary — because the intent of the law is to provide the beneficiary with enough information to make an informed decision about whether to proceed with surgery.

Exceptions to Second Opinion — A second opinion will not be necessary if:

- A delay can result in risk to the patient (i.e. emergency surgery) or
- No doctor who is either a Medicare participating physician or willing to accept Medicare assignment is available and qualified to provide a second opinion in this case (for example, a physician might decide to no longer accept assignment, or the PRO cannot locate a specialist of the appropriate type who can readily give a second opinion without causing undue delays).
- A decision that surgery is medically necessary, but should be performed in a different setting, is not subject to the second surgical opinion requirements.

> will pay the full cost of the second opinion and any necessary tests. If you are ever scheduled for a surgery that requires a second opinion, you will be given all necessary information at that time by the state PRO."

Incredibly, this is the extent of the information the federal government is proposing to send to beneficiaries. The balance of the information to be provided to beneficiaries in Missouri would then come from the Missouri Patient Care Review Foundation through its relationships with community organizations like the American Association of Retired Persons (AARP) and others. Moreover, the federal notice is incorrect because the program will not be in place probably until March.

Consider the confusion that will result from the rapid implementation of this program and the difficulty encountered by a patient needing surgery who receives a letter to get a second opinion from the physician listed on a sheet of paper provided by the PRO. Patients who have no transportation, live alone, are too sick, or have other complicating medical conditions will have the greatest difficulty in finding a participating physician to get a second opinion. For the PRO, the feedback loop in the process is insufficiently fleshed out; the PRO may never know the outcome of some second opinion cases. The patient whom the PRO directed to get a second opinion has no incentive to notify the PRO under normal circumstances.

Tentative selection by the Secretary of the specialists who can perform second opinions is, to say the least, controversial. For the first time, surgical cases will be reviewed by nonsurgical specialists for second opinions. Also, many second opinion physicians may gain patients, thereby "stealing" the patient from the first surgeon. This may be particularly true in the case of rural patients for whom second opinions are obtained in a metropolitan area. It will be very difficult in some areas of the state to find appropriate specialists for purposes of this program.

For the Missouri Patient Care Review Foundation, this program raises difficult moral, ethical, and legal questions. Foundation staff will have to make decisions in most cases whether the surgery is indicated. There is considerable hesitancy, at this stage, to make these decisions without significant medical input. Therefore, the Foundation last month asked physicians from the needed specialty areas to get together, either through their local chapters or other statewide associations, to develop criteria for use by our reviewers. These screening criteria must be appropriate for use by a nurse reviewer. Cases failing the criteria would then be referred to the appropriate specialist for second opinions.

A complicated and controversial program, to be successful, needs the input, support, and cooperation of all physicians in the state of Missouri. We strongly encourage physicians to participate in the development of criteria and in the review process to provide

Continued on page 84

"Living in the city
is lonely enough...
with herpes it's like
solitary confinement."

ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

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Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

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The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

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Prevent recurrences month after month*

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Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m².

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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■ Editor's Desk

Continued from page 63

problems were probably discussed in class the times several of us skipped off to play golf. There is still hope, however. There are dermatology meetings scheduled in Vail and Palm Springs this February, and another one just happens to be listed in Maui later this month. Maybe it's time now to catch up on our learning. ■

■ Practice Management

Continued from page 69

5) **Preparing the patient.** I don't like signs in physicians' offices. I do like good communications. Therefore, you might better prepare the patients to pay by putting a boxed-in notice at the bottom of the patient information sheet you have new patients complete (name, address, name of spouse, employer, insurance companies and policy numbers). It could simply say:

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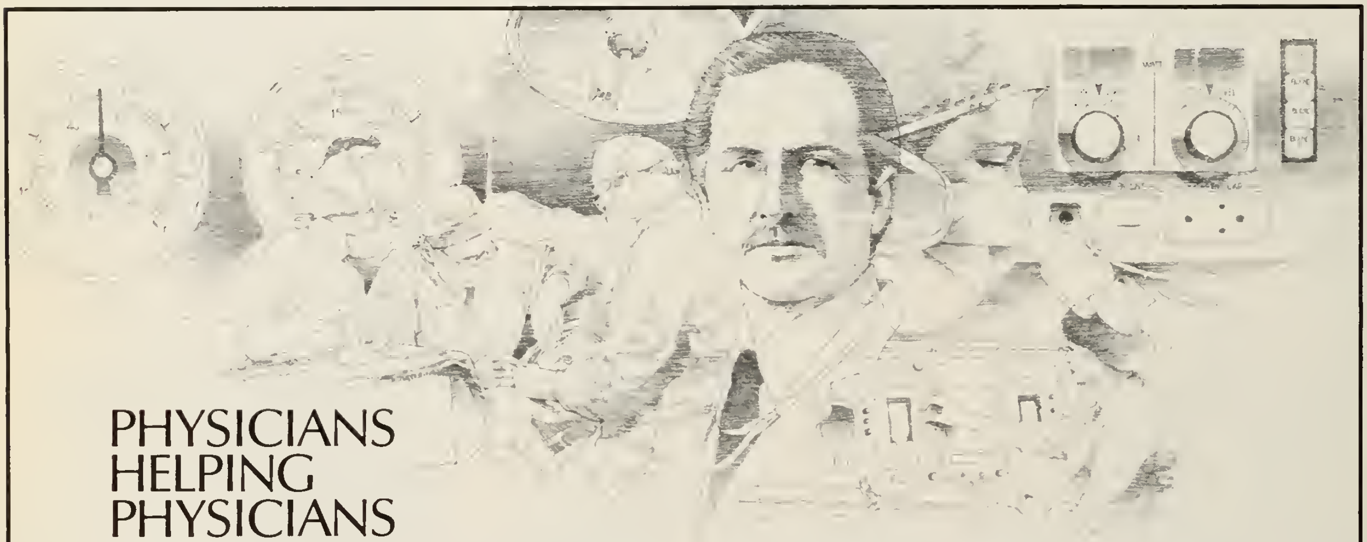
■ HCFA'S Plan

Continued from page 82

second opinions so that we continue to provide care to Medicare patients who need it in a timely fashion. Without widescale physician participation, the Foundation will have to rely on a handful of specialists for decision making, which may or may not reflect fully the standard of medical practice in the state of Missouri, and that will not be in the best interest of patients and physicians.



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MISSOURI CHAPTER 383 COMPANY

Medical School News

University of Missouri-Kansas City

■ **Satchi J. Hiremath,** a senior at UMKC School of Medicine, recently was selected as one of the Outstanding Young Men of America (OYMA) of 1986. Now in its 24th year, the OYMA program is designed to honor and encourage exceptional young men between the ages of 21 and 36 who have distinguished themselves in areas such as service to the community, professional leadership, academic achievement, business advancement, cultural accomplishments, and civic and political participation. Young men listed in this prestigious annual awards publication are selected from 150,000 nominations nationwide.

■ **Lynette Iles,** a senior at UMKC School of Medicine, is the fourth recipient of the Ruby T. McVean Scholarship Award. The award goes to a student who has high levels of academic, clinical, and personal performances and a demonstrated interest in Family Medicine and Geriatrics. Mrs. McVean established the award in 1983 to help further the cause of these areas of medicine. Each year she makes a personal visit to the medical school to meet the McVean Scholar.

■ **Lee Langley, Ph.D.,** and **Stuart Munro, M.D.,** tied for the Faculty Appreciation Award, an honor presented annually by students of UMKC School of Medicine. The award was presented at the school's Final Annual Provost's Award Night (FAPAN), which consists of satiric skits of faculty and administration. In addition, **Stuart Chen, M.D.,** and his Gold-6 docent team were presented with the Snake of Aesculapius Prize for outstanding academic achievement.

■ **Mrs. Gerti Bursten,** administrative assistant in the Dean's Office, is the fifth annual recipient of UMKC School of Medicine's award for outstanding administrative support. Ten employees were nominated for the award, based on criteria which included attitude and productivity, organizational skills and work habits, creativity and flexibility, dependability, specific projects and accomplishments, skill development, and ability to work with others.

■ The first stage of the Eye Foundation of Kansas City, located adjacent to Truman Medical Center (TMC) and UMKC School of Medicine on Hospital Hill, is scheduled for completion in April. This first stage involves completing construction of the Eye Foundation building's first floor, with its three operating rooms and laser clinic, and opening for patient care. An open house is scheduled for June 6. In addition, Eye Foundation officials have made a second stage, completion of the building's second floor and research facilities, a future goal.

The Eye Foundation was established by a group of area ophthalmologists, led by TMC Ophthalmology Chairman **Felix Sabates, M.D.,** who is also a professor at UMKC School of Medicine, as a premier regional eye-care center. It will continue in the TMC tradition of providing excellent graduate and undergraduate medical education while providing outstanding eye care, utilizing community physicians, both academically and clinically.

■ The Missouri Geriatric Education Center (MGEC) grant was renewed for the second of three years, from Oct. 1986-Sept. 1987, for $274,000. The grant is under the direction of **Richardson K. Noback, M.D.,** Professor of Medicine and Head of the Section of Geriatrics at UMKC School of Medicine, and **William Bradshaw, M.D.,** Professor, Department of Community and Family Medicine at the University of Missouri-Columbia. The Health and Human Services grant is designed to "teach educators to educate" in the fields of geriatrics and gerontology.

Richardson K. Noback, M.D., also accepted an invitation to join the Planning Committee for the National Meeting of Geriatric Education Centers. The meeting is planned for mid-1987 in Buffalo, N.Y., the base of the accomplished Western New York Geriatric Education Center.

In addition, two papers were accepted for the Mid-American Congress on Aging this Spring in Omaha. They are: "Community and University Effort in Geriatric Medical Education for Six Years" (poster session), to be presented by **Dr. Noback, Larry W. Romang,** and **Donald L. Weaver.** An hour-long workshop, "A Geriatric Long-Weekend Series," will be presented by **Dr. Noback, Ann N. Rosenow, Ashok Gumbhir,** and **H. Clifford Carlson.**

Dr. Noback was also awarded a grant of $30,000 by the U.S. Department of Health and Human Services, "National Health Service Corp (NHSC) Technical Assistance and Continuing Medical Education," to design a conference to meet the needs of NHSC providers, staff members of the U.S. Public Health-supported community, and migrant health centers, as well as other health professionals who are involved in caring for the elderly in Region VII. The conference, Fresh Perspectives in Geriatrics/Gerontology, was held Oct. 29-31, 1986. Eighty-five health-care professionals from Region VII attended.

■ Truman Medical Center, primary teaching hospital of UMKC School of Medicine, recently established a Stroke Center, a comprehensive program featuring team management and an interdisciplinary approach to the treatment and prevention of strokes. Membership of the Stroke Center panel includes **Matt Egan,** Stroke Center manager; **Hugh Moncrief, M.D.,** neurosurgeon; **Beaty Pemberton, M.D.,** chairman of Surgery; **Violet Matovich, M.D.,** neurologist, Stroke Center chairperson; **James J. Mongan, M.D.,** TMC executive director; **Fong Y. Tsai, M.D.,** neuroradiologist and Stroke Center director, and **Michael Beezley, M.D.,** vascular surgeon.

St. Louis University

■ On December 9, a 46-year-old St. Louis County man received a heart transplant after being kept alive for 91 days with a Novacor Heart Assist System. This was the longest period of time during which a patient was sustained by a heart-assist device or a total artificial heart and then transplanted.

The five-hour operation began around noon after a suitable donor organ was located in Jacksonville, Fla. The surgical team was led by **Lawrence R. McBride, M.D.,** assistant professor of surgery at St. Louis University School of Medicine, and assisted by **D. Glenn Pennington, M.D.,** professor of surgery at the school of medicine.

"The importance of this case is that the patient was resuscitated from a certain death and supported with an implanted electrical system for three months," said Dr. Pennington. "The case proves that this assist device is a safe and reliable system which provided excellent temporary support and encourages its further development as a permanent system."

The Novacor system is a second-generation ventricular assist system intended for implantation in patients with terminal heart failure. The electrically powered and electronically controlled system compensates for a failing heart by taking over the function of its main pumping chamber, the left ventricle. In contrast to the artificial heart, it does not replace the heart (which remains in place) but, rather, augments the weakened heart muscle. The heart's natural regulatory function remains intact, allowing normal physiologic response to exercise and emotion. During the three-month application of this system, the patient was mobile, active, able to ride a stationary bicycle and walk outside the hospital.

To date, approximately 35 assist devices have been used as a bridge to transplantation in which the patient's heart remains in place. The longest such bridge has been 41 days. Twenty-six Jarvik total artificial hearts have also been used as a bridge to transplantation. Of these, the longest resulting in a successful transplantation was 41 days. Patients transplanted after being kept alive by assist devices have had a 70% survival rate.

- A researcher at St. Louis University School of Medicine has been awarded two grants to study neuroanatomy related to schizophrenia and Parkinson's disease. **Daniel S. Zahm, Ph.D.,** assistant professor of anatomy and neurobiology, received a three-year, $125,931 award from the National Institute of Neurological and Communicative Disorders and Stroke. He also won a one-year, $15,680 grant from the American Parkinson Disease Association.

Both grants will fund Dr. Zahm's study of pathways in the brain that use the neurochemical dopamine. Both schizophrenia and Parkinson's disease (a neurological disease that affects movement) appear to involve dysfunction of the brain's dopaminergic system.

- **Christian E. Paletta, M.D.,** has been appointed to the staff of the division of plastic and reconstructive surgery at The University Hospital at St. Louis University Medical Center. He will also hold the faculty position of assistant professor of surgery in the school of medicine.

Dr. Paletta trained under Drs. Carl Hartrampf Jr. and John Bostwick III, two of the leading breast reconstruction surgeons in the nation. He received his medical degree from the University of North Carolina, Chapel Hill, N.C., in 1978. He completed a residency in general surgery at Grady Memorial Hospital in Atlanta and also one in plastic surgery at Emory University in Atlanta.

The University of Missouri-Columbia

- **Charles Caldwell, M.D.,** assistant professor of pathology, was awarded a contract with the Cancer Research Center for evaluating the immune status of persons in the Small Cell Lung Cancer unit.

- **Judith A. Cole, Ph.D.,** research associate in pharmacology, has been awarded a three-year, $71,000 National Research Service Award from the National Institutes of Health for her work on "Hormonal Control of Renal Parathyroid Hormone Receptors." Dr. Cole works under the sponsorship of **Leonard R. Forte, Ph.D.,** professor of pharmacology.

- **Robert Conway, M.D.,** clinical assistant professor of physical medicine and rehabilitation, has received the Elkins Award for achieving the highest grade on the written examination of the American Board of Physical Medicine and Rehabilitation. Dr. Conway has also initiated an out-reach program in cooperation with clinics at Boonville's Cooper County Memorial Hospital and Fayette's Keller Memorial Hospital.

- **Robert Custer, M.D.,** a graduate of UMC's Department of Psychiatry residency training program, recently received the 1986 Taylor Manor Award for Outstanding Psychiatric Achievement. Dr. Custer began his pioneering research on compulsive gambling while a resident at UMC and now serves as chief of the Mental Health Treatment Services Division for the Veteran's Administration in Washington, DC. He has published a book and numerous articles on the field, as well as working as medical advisor to the National Council on Compulsive Gambling.

- **Greg C. Flaker, M.D.,** assistant professor of medicine, presented "Prognosis After Programmed Stimulation In Patients With Left Ventricular Dysfunction and Ventricular Tachycardia" at the 1986 World Congress of Cardiology in Washington, DC.

- **Robert Gaines, M.D.,** associate professor of orthopaedic surgery, presented a paper on improving spinal internal fixation at the 1986 American and British Scoliosis Research Society meeting in Hamilton, Bermuda.

- **Stephanie Hanson, Ph.D.,** has joined the psychology section of physical medicine and rehabilitation as a clinical assistant professor.

- **Paul E. Kaplan, M.D.,** professor and chairman of physical medicine and rehabilitation, is co-author of the book "Stroke Rehabilitation." This is the first general review of the special aspects of stroke rehabilitation to be published in several years.

- **Donald Kay, M.D.,** associate professor of medicine, recently served on NIH Program Review Site teams for Multipurpose Arthritis Center grant applications.

- **Helen Mullen, Ph.D.,** associate professor of medicine, recently received an $81,186 grant from the National Cancer Institute for her research of Cellular Mechanisms Regulating Antibody Production.

- **Jerry C. Parker, Ph.D.,** clinical assistant professor of medicine and psychiatry, received the Outstanding Research Psychologist award at the 1986 annual meeting of the American Psychological Association. Dr. Parker has done extensive grant-supported research in pain management, life stresses and coping mechanisms.

- **Charles L. Puckett, M.D.,** professor and chairman of plastic and reconstructive surgery, was elected 1987 vice-president of the American Association for Hand Surgery.

- **W. B. Stewart, M.D.,** professor of pathology, recently presented a paper on HTLV-III Testing in a Rural Donor Population at the International Congress of Blood Banking in Sydney, Australia.

- **John T. Turner, Ph.D.,** assistant professor of pharmacology, has been awarded $42,839 for the second year of this three-year grant from the National Institutes of Health for his study of "VIP Receptors and Submandibular Gland Function" (total project award — $137,779).

- **Clark Watts, M.D.,** professor of neurosurgery, and **Kathy Cain, A.C.S.W.,** coordinator of the University's head and spinal cord injury prevention program, are responsible for spearheading a new national prevention film. The film, highlighting 24 Missourians, is part of a new nationwide effort to educate people about simple precautions which may prevent a life-long disability. The film is sponsored by the American Association of Neurological Surgeons and the Congress of Neurological Surgeons.

- **Kim Wise, Ph.D.,** associate professor of microbiology, has been named chairman of the steering committee for the University's interdisciplinary Molecular Biology program. This program, targeted for eminence on the UMC campus, is designed to provide key molecular technologies to the research community. The steering committee advises campus administration on the direction of the program.

- **Donald York, Ph.D.,** professor of physiology and neurosurgery, recently presented a paper at the Third International Evoked Potential Symposium in West Berlin, Germany. His presentation, as well as other recent papers he has presented, related to his research dealing with the neurophysiology of motor systems.

- The Department of Psychiatry won one of an initial five national awards made by the American Psychoanalytic Association's Visiting Psychoanalyst Programs for psychiatry departments. The department will run a series of teaching seminars based on the quality of its residency program serving nonmetropolitan areas.

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New Members

■ **Allen G. Adams, M.D.**, #16 Hampton Village Plaza Suite 286, St. Louis 63109, has become a member of the St. Louis Metropolitan Medical Society. Dr. Adams received his preliminary education at Carroll College and his medical degree at St. Louis University in 1980. He completed his residency training at St. Louis University Hospitals. He specializes in orthopedic surgery.

■ **Gregory B. Barber, M.D.**, Suite 620, 2900 Baltimore, Kansas City 64108, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Barber received his preliminary education at the University of Maryland and his medical degree at the University of Maryland in 1979. He completed his residency training at Boston City Hospital, Boston, Mass. He specializes in gastroenterology.

■ **Robert M. Beatty, M.D.**, Suite 328, 4320 Wornall Road, Kansas City 64111, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Beatty received his preliminary education at Stanford University and his medical degree at the University of Utah in 1978. He completed his residency training at Massachusetts General Hospital, Boston. He specializes in neurosurgery.

■ **Timothy T. Brady, M.D.**, 121 West Adams, Kirkwood 63122, has become a member of the St. Louis Metropolitan Medical Society. Dr. Brady received his preliminary education at the University of Notre Dame and his medical degree at St. Louis University in 1981. He completed his residency training at St. Louis University Hospitals. He specializes in internal medicine and gastroenterology.

■ **Deepak Chavda, M.D.**, 3530 Laclede Ave., Apt. 1105 West St. Louis 63103, has become a member of the St. Louis Metropolitan Medical Society. Dr. Chavda received his preliminary education at D.K.V. Arts & Science College and his medical degree at M. P. Shah Medical College in 1980. He completed his residency training in India. He specializes in orthopedic surgery.

■ **David R. Dembinski, M.D.**, 4900 Swope Parkway, Kansas City 64130, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Dembinski received his preliminary education at Johns Hopkins University and his medical degree at Rutgers Medical School in 1982. He completed his residency training at Morristown Memorial Hospital, N.J. He specializes in internal medicine.

■ **Michael K. Engelken, M.D.**, 502 State, Mound City 64470, has become a member of the Northwest Missouri Medical Society. Dr. Engelken received his preliminary education at the University of Kansas and his medical degree at the University of Kansas in 1982. He completed his residency training at the University of Arizona, Tucson. He specializes in family practice.

■ **Sharad S. Gavankar, M.D.**, 2606 Cunningham St., Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Gavankar received his preliminary education at Karnatak College and his medical degree at Kasturba Medical College in 1961. He completed his residency training at University of Missouri-Kansas City. He specializes in psychiatry.

■ **Andrew S. Glickman, M.D.**, 460 Country Club Drive, Hannibal 63401, has become a member of the Northeast Missouri Medical Society. Dr. Glickman received his preliminary education at Long Island University and his medical degree at Ross University in 1982. He completed his residency training at Beth Israel Medical Center. He specializes in anesthesiology.

■ **Karen F. Goodhope, M.D.**, 11155 Dunn Road, Suite 304E, St. Louis 63136, has become a member of the St. Louis Metropolitan Medical Society. Dr. Goodhope received her preliminary education at Beloit College and her medical degree at Southern Illinois University in 1980. She completed her residency training at Bay State Medical Center, Springfield, Mass. She specializes in diagnostic radiology and nuclear medicine.

■ **Brenda L. Guenthner, D.O.**, Route 4, Box 418, Columbia 65203, has become a member of the Boone County Medical Society. Dr. Guenthner received her preliminary education at Northeast Missouri State University and her osteopathic degree at Kirksville College in 1985. She is completing her residency training at Howard Rusk Rehabilitation Center, Columbia. She specializes in physical medicine and rehabilitation.

■ **Gregory W. Hornig, M.D.**, Suite 328, 4320 Wornall, Kansas City 64111, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Hornig received his preliminary education at Harvard College and his medical degree at the University of Cincinnati in 1980. He completed his residency training at Children's Hospital Medical Center/Brigham and Womens Hospital, Boston, Mass. He specializes in neurosurgery.

■ **John W. Kilgore, M.D.**, 6400 Clayton Rd., Suite 212, St. Louis 63117, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kilgore received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1980. He completed his residency training at the Medical University of South Carolina, Charleston, S.C. He specializes in internal medicine and cardiology.

■ **Richard M. Linn, M.D.**, 7705 Shirley Drive, Clayton 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Linn received his preliminary education at Brown University and his medical degree at New York University in 1984. He is completing his residency training at Washington University. He specializes in orthopedic surgery.

■ **Silvana Y. Menendez, M.D.**, 1360 E. Fifth St., St. Charles 63301, has become a member of the St. Charles-Lincoln County Medical Society. Dr. Menendez received her preliminary education at Instituto del Vedado and her medical degree at Universidad de la Habana in 1957. She completed her residency training at St. Louis State Hospital. She specializes in psychiatry.

■ **Joseph C. Parker, Jr., M.D.**, Truman Medical Center, Department of Pathology, 2301 Holmes, Kansas City 64108, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Parker received his preliminary education at Virginia Military Institute and his medical degree at Medical College of Virginia in 1962. He completed his residency training at

Duke University in Durham, N.C. He specializes in pathology.

■ **Indu B. Patel, M.D.**, 1683 Marriott Lane, P.O. Box 308, Barnhart 63012, has become a member of the Jefferson County Medical Society. Dr. Patel received her preliminary education at Gujarat College and her medical degree at B. J. Medical College in 1971. She completed her residency training at Good Samaritan and University of Maryland. She specializes in internal medicine.

■ **Laghaieh Rezvani, M.D.**, 404 East Center, Sikeston 63801, has become a member of the SEMO County Medical Society. Dr. Rezvani received her preliminary education at Ahendeda University and her medical degree at Meshed University in 1971. She completed her residency training at the University of Missouri-Columbia. She specializes in radiology.

■ **Philip G. Rhodes, M.D.**, Children's Mercy Hospital, 24th and Gillham Rd., Kansas City 64108, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Rhodes received his preliminary education at Friends University and his medical degree at Kansas University in 1970. He completed his residency training at Children's Mercy, Kansas City. He specializes in pediatrics.

■ **Gladys M. Riddell, M.D.**, Box 570, Jefferson City 65102, has become a member of the Cole County Medical Society. Dr. Riddell received her preliminary education at Aberdeen University and her medical degree at Aberdeen University in 1953. She completed her residency training at Charleston Area Medical Center, W. Va. She specializes in pediatrics.

■ **David H. Roehrs, M.D.**, 107 E. Third, Sedalia 65301, has become a member of the Pettis County Medical Society. Dr. Roehrs received his preliminary education at Westminster College and his medical degree at St. Louis University in 1982. He completed his residency training at the St. Louis University Hospitals. He specializes in radiology.

■ **Cyrus D. Smith, D.O.**, 514 Francis, St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Smith received his preliminary education at Central Missouri State University and his osteopathic degree at Kirksville College of Osteopathic Medicine in 1981. He completed his residency training at Doctors Hospital, Columbus, Ohio. He specializes in orthopedic surgery.

■ **Sally M. Smith, M.D.**, 1465 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Smith received her preliminary education at Georgetown University and her medical degree at St. Louis University in 1984. She is completing her residency training at Cardinal Glennon Hospital, St. Louis. She specializes in pediatrics.

■ **Jean F. Spencer, M.D.**, 456 N. New Ballas Rd., Suite 118, St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Spencer received her preliminary education at Iowa State University and her medical degree at the University of Iowa in 1981. She completed her residency training at the University of Iowa, Iowa City. She specializes in ophthalmology.

■ **Brian Herman Teeter, M.D.**, 3333 McIntosh Circle Drive, Suite 1, Joplin 64801, has become a member of the Jasper County Medical Society. Dr. Teeter received his preliminary education at Phoenix College and his medical degree at Autonomous University

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of Guadalajara in 1980. He completed his residency training at the University of South Dakota Affiliated Hospitals, Sioux Falls, S.D. He specializes in internal medicine.

- **Donald Wonder, M.D.**, 547 N. Business Highway 65, Branson 65616, has become a member of the Tri-Lakes Medical Society. Dr. Wonder received his medical degree at the University of Texas Medical Branch-Galveston in 1979. He completed his residency training at the Kansas University Affiliated Hospitals. He specializes in general surgery.

■ New Student Members

St. Louis University

Sara Ehlke-Bejcek

University of Missouri-Columbia

Paul R. Stricker

University of Missouri-Kansas City

Christina M. Casteel
Alice H. Chou
Robert J. Ellis
Lori A. Hermandorfer
Michael R. K. Jacoby
Eddie J. McCullough
Shawn C. Merys
Michael Monaco
Gurpeet Padda
John L. Ritter
Susan Savulak
Joe E. Snodgrass
Charisse A. Soracco
Tracy L. Stevens
William T. Wester

Washington University

Robert McMahon

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February

18 **Cutaneous Signs of Malignancy** — Location: Brown Room, Jewish Hospital, St. Louis. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

27-Mar. 2 **Organizational Systems** — Location: Memorial Union, UMC Campus. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

March

6-7 **Eating Disorders** — Location: Hilton Inn, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

7-8 **Family Practice Update** — Location: MA217 CME Auditorium, UMC School of Medicine. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

16-17 **Computers in Medicine** — Location: Aspen, CO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Reconstructive Surgery for Patients with Cancer of the Head and Neck** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: Fransisco Lounge, Student Center, University of Kansas Medical Center. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

April

3-4 **American Society for Microbiology** — Location: Breckenridge on the Lake, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

10-12 **New Technology in the Management of Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

23-24 **Current Management in Critical Care** — Location: Kansas City Southwest Clinical Society. Contact: Linda F. Smutz, Executive Director, 222 W. Gregory, Kansas City, MO 64114. 816/523-3383.

25 **Anticoagulant and Antithrombotic Therapy: State of the Art** — Location: Alameda Plaza Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4480.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

29-May 2 **Surgery of the Spine: State of the Art** — Location: Marriott's Pavilion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

Information for Contributors

Articles are accepted for publication on condition that they are contributed solely to this journal. Material appearing in Missouri Medicine is protected by copyright.

Manuscripts should be submitted to the editor, Jordan W. Burkey, M.D., P.O. Box 1028, 113 Madison, Jefferson City, Mo. 65102. The transmittal letter should designate one author as correspondent and include his address and telephone number.

In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by all authors of the submission will necessitate delay in review of the manuscript. Please include the title of the article in the transmittal letter.

Manuscripts

Manuscripts should be typewritten, double spaced, and the original with one copy submitted. Retain another copy for proofreading. Please number the pages of your manuscript. Manuscripts are not returned. Hospital and University appointments of the author(s) should accompany the manuscript. A synopsis-abstract of no more than 75 words should accompany the manuscript.

References

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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Editorials should be written in clear, concise language. Length should be about two or three pages typed with double spacing.

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Deadline

All material other than scientific should be received prior to the first of the month preceding month of publication.

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Physician's Recognition Awards

Twenty-nine MSMA members qualified for the MSMA-AMA Physician's Recognition Award during November 1986. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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Greene

J. Larry Dowell, *Strafford*
George F. Duensing, *Springfield*
James S. Key, *Springfield*
Keith A. La Ferriere, *Springfield*
Melvin O. Walker, *Springfield*

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Irene E. Bettinger, *Kansas City*
Abe E. Braverman, *Kansas City*
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Mark E. Young, *Kansas City*

Jasper

Richard F. Williams, *Carthage*

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Cengiz M. Sumer, *St. Louis*
Emel A. Sumer, *St. Louis*

Tri-Lakes

Jerald D. Chaffin, *Branson*

In Memoriam

- **Morton Binder, M.D.,** 4652 Maryland Ave., St. Louis 63108; graduate of Columbia University, 1951; member of the St. Louis Metropolitan Medical Society; age 58; died January 2, 1987.

- **Thomas W. Johnson, M.D.,** Route 3, Box 900, Grove, OK 74344; graduate of University of Tennessee, 1954; member of the Metropolitan Medical Society of Greater Kansas City; age 62; died January 3, 1987.

- **James P. King, M.D.,** 10004 Kennerly Rd., St. Louis 63128; graduate of St. Louis University, 1945; member of the St. Louis Metropolitan Medical Society; age 64; died January 10, 1987.

- **L. Marian Lambert, M.D.,** 2 St. Mark Circle, Ormond Beach, FL 32074; graduate of Cornell University, 1944; member of the Metropolitan Medical Society of Greater Kansas City; age 75; died December 10, 1986.

- **William C. Schaerrer, M.D.,** 310 W. 49th, #804, Kansas City 64112; graduate of the University of Western Ontario, 1936; member of the Metropolitan Medical Society of Greater Kansas City; age 81; died December 30, 1986.

- **Samuel D. Soule, M.D.,** 911 S. Brentwood, #325, St. Louis 63105; graduate of Washington University, 1928; member of the St. Louis Metropolitan Medical Society; age 82; died October 29, 1986.

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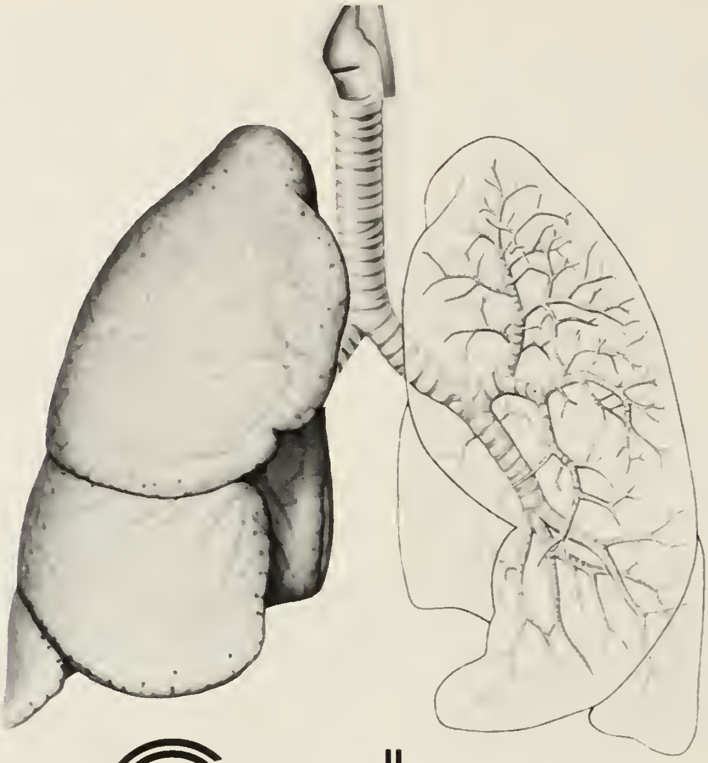

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- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly)

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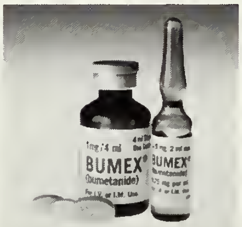
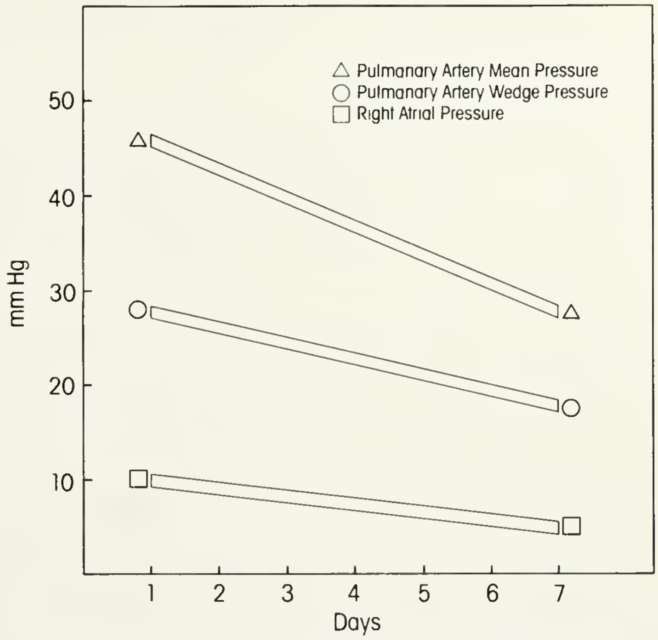


Significantly improves hemodynamics



Ten patients with CHF showed marked hemodynamic improvement after seven days of BUMEX® (bumetanide/Roche) (mean values ± SE) Adapted from Olesen, *et al* [1]

References: **1.** Olesen KH, *et al Postgrad Med J 51*(Suppl 6) 54-63, 1975 **2.** Handler B, Dhingra RC, Rosen KM *J Clin Pharmacol 21* 706-711, Nov-Dec 1981 **3.** Brater DC, *et al Clin Pharmacol Ther 34* 207-213, Aug 1983 **4.** Brater DC, Fox WR, Chennavasin P *J Clin Pharmacol 21* 599-603, Nov-Dec 1981 **5.** Davies DL, *et al Clin Pharmacol Ther 15* 141-155, Feb 1974

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BUMEX® (bumetanide/Roche)
Before prescribing, please consult complete product information, a summary of which follows:

> **WARNING: Bumex (bumetanide/Roche) is a potent diuretic which, if given in excessive amounts, can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dosage schedule have to be adjusted to the individual patient's needs. (See under DOSAGE AND ADMINISTRATION in complete product information.)**

INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephrotic syndrome

Almost equal diuretic response occurs after oral and parenteral administration of Bumex If impaired gastrointestinal absorption is suspected or oral administration is not practical, Bumex should be given by the intramuscular or intravenous route

Successful treatment with Bumex following instances of allergic reactions to furosemide suggests a lack of cross-sensitivity

CONTRAINDICATIONS: Anuria Hypersensitivity and in patients in hepatic coma or in states of severe electrolyte depletion Although Bumex can be used to induce diuresis in renal insufficiency, any marked increase in blood urea nitrogen or creatinine, or the development of oliguria during therapy of patients with progressive renal disease, is an indication for discontinuation of treatment

WARNINGS: Dose should be adjusted to patient's needs Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients

Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risks to the patients

In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients

In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved The potential for ototoxicity increases with intravenous therapy, especially at high doses

Patients allergic to sulfonamides may show hypersensitivity to Bumex

PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets Hyperuricemia may occur Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency Bumex may increase urinary calcium excretion

Possibility of effect on glucose metabolism exists Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes

Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions

Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions

Drugs with nephrotoxic potential and bumetanide should not be administered simultaneously

Since lithium reduces renal clearance and adds a high risk of lithium toxicity, it should not be given with diuretics

Probenecid should not be administered concurrently with Bumex

Concurrent therapy with indomethacin not recommended

Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage

Interaction studies in humans have shown no effect on digoxin blood levels.

Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity

Pregnancy Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus

Bumetanide may be excreted in breast milk

Pediatric Use Safety and effectiveness below age 18 not established

ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease)

Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting

Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection

Laboratory abnormalities reported are hyperuricemia, azotemia, hyperglycemia, increased serum creatinine, hypochloremia, hypokalemia, hyponatremia, and variations in CO_2 content, bicarbonate, phosphorus and calcium Although manifestations of the pharmacologic action of Bumex, these conditions may become more pronounced by intensive therapy

Diuresis induced by Bumex may also rarely be accompanied by changes in LDH, total serum bilirubin, serum proteins, SGOT, SGPT, alkaline phosphatase, cholesterol, creatinine clearance, deviations in hemoglobin, prothrombin time, hematocrit, platelet counts and differential counts Increases in urinary glucose and urinary protein have also been seen

DOSAGE AND ADMINISTRATION:

Oral Administration The usual total daily dosage is 0 5 to 2 0 mg and in most patients is given as a single dose

Parenteral Administration Administer to patients (IV or IM) with GI absorption problem or who cannot take oral The usual initial dose is 0 5 to 1 mg given over 1 to 2 minutes If insufficient response, a second or third dose may be given at 2 to 3 hour intervals up to a maximum of 10 mg a day

HOW SUPPLIED: *Tablets,* 0 5 mg (light green), 1 mg (yellow) and 2 mg (peach), bottles of 100 and 500, Prescription Paks of 30; Tel-E-Dose® cartons of 100 Imprint on tablets 0 5 mg—ROCHE BUMEX 0 5, 1 mg—ROCHE BUMEX 1, 2 mg—ROCHE BUMEX 2

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Bumex has a good safety profile; however, as with all loop diuretics, Bumex, if given in excessive amounts, can lead to profound diuresis with water and electrolyte depletion, including hypokalemia. Serum electrolytes should be monitored periodically, especially in patients on low salt diets or those treated for prolonged periods or on high doses.

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First line loop diuretic therapy

Please see references and summary of product information on preceding page.
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Missouri Medicine

Journal of the Missouri State Medical Association
March 1987

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- Preliminary Program for 1987 MSMA Annual Convention
- MSMA and MSMF 1986 Financial Statements

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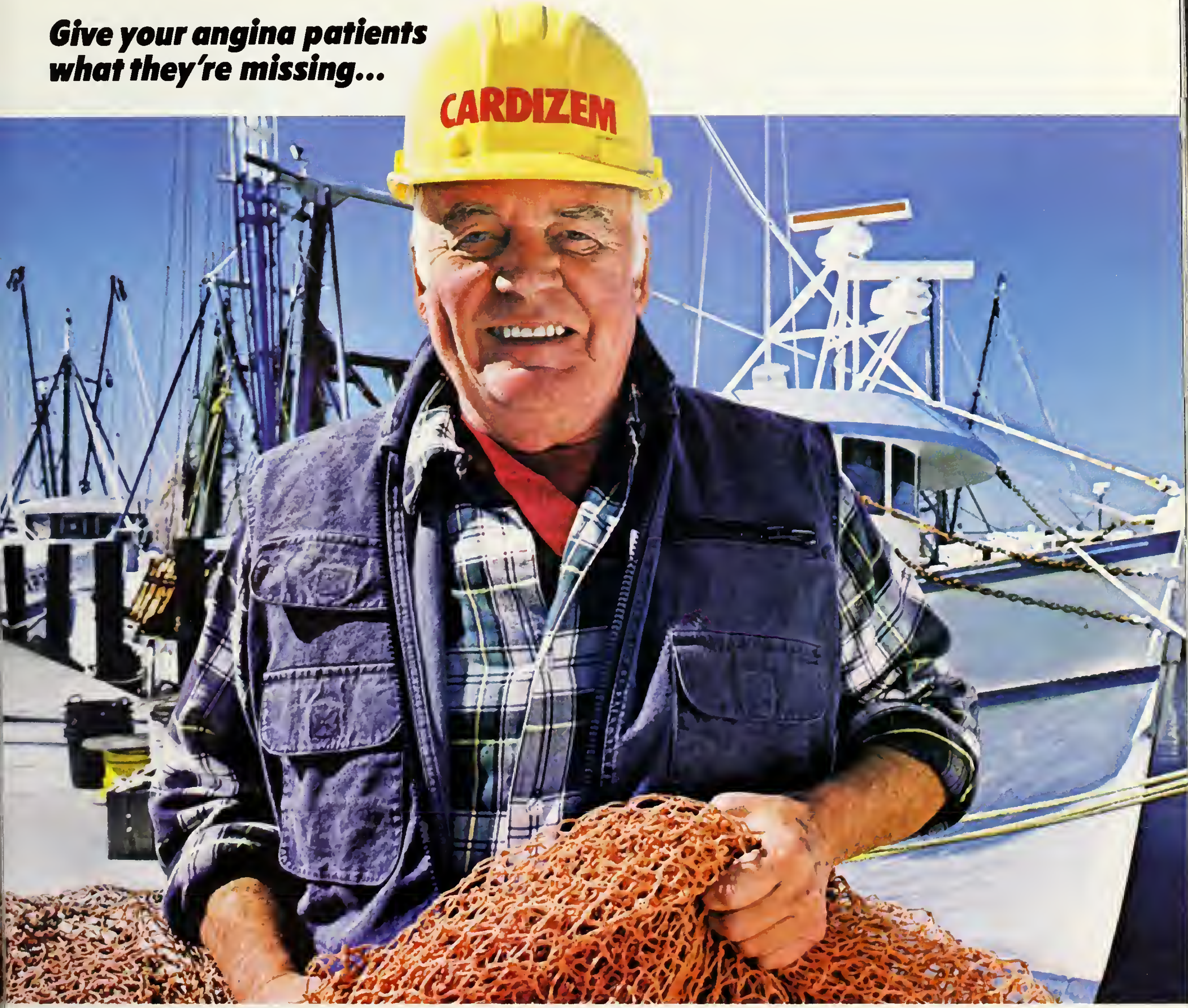

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Please see brief summary of prescribing information on the next page.

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60 mg tid or qid

Brief Summary
Professional Use Information

CARDIZEM®
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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope
Nervous System:	Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor
Gastrointestinal:	Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase
Dermatologic:	Petechiae, pruritus, photosensitivity, urticaria
Other:	Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 7/86

See complete Professional Use Information before prescribing.

References: 1. Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347. **2.** Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984; 24(Dec):150-159. **3.** Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687. **4.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **5.** Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.

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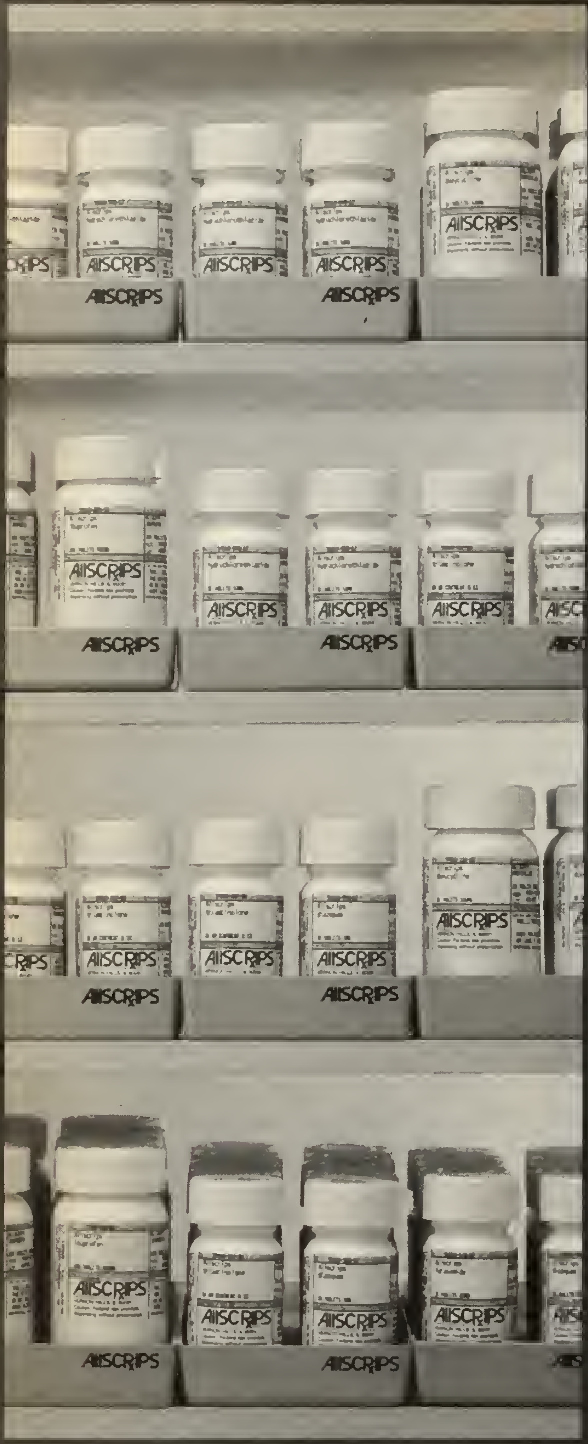

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"Blue Regatta," 24" x 30" watercolor by Margaret Kelly O'Brien of *Manchester, Missouri.* One in a series of watercolors painted at the Lake of the Ozarks depicting the magical combination of wind and canvas in sailing. The work is part of the artist's private collection.

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MSMA Organizes Hospital Medical Staff Section

The new officers of the MSMA HMSS are (left to right) Jennifer Ashby, M.D., alternate delegate; Stephen Vilmer, M.D., secretary/treasurer; William Dorzab, M.D., vice-councilor; M. Ted Moore, M.D., vice-chairman; Jim Reddington, M.D., chairman; David Auner, M.D., delegate; and Charles Barbee, M.D., councilor.

MISSOURI
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ASSOCIATION

Dr. Howard Lang from California addresses the more than 60 delegates to the HMSS organizational meeting.

More than 60 physicians from hospitals across the state met in Columbia, Mo., for the first meeting of the Hospital Medical Staff Section (HMSS) of the Missouri State Medical Association. MSMA President H. Peter Ekern, and President-elect Larry G. Piepergerdes, M.D., coordinated the meeting with assistance from the MSMA staff.

The January 31-February 1 organizational meeting featured Howard L. Lang, M.D., who is chairman of the American Medical Association HMSS Governing Council. Dr. Lang, an obstetrician/gynecologist from Greenbrae, Ca., spoke on "The Inherent Powers of the Hospital Medical Staff" in his Keynote Address. Dr. Lang commented during his speech that for a first meeting, the turnout was commendable.

The second presentation of the day was given by Dale H. Cowan, M.D., J.D., who spoke on "Credentialing & Quality Assurance." Dr. Cowan, a practicing hematologist/oncologist, is also a clinical professor and lecturer in Law and Medicine at Case Western Reserve University in Cleveland, Ohio.

Those present at the meeting also heard Mohammad N. Akhter, M.D., M.P.H., speak on "Current Concepts of PRO in Missouri." Dr. Akhter is president and medical director of the Missouri Patient Care Review Foundation.

Following Dr. Akhter's speech, a nominating committee was selected and on February 1, this committee announced its choices for the HMSS officers. Jim Reddington, M.D., of St. Mary's Health Center in Richmond Heights was elected Chairman of the HMSS. The other leaders of HMSS include: M. Ted Moore, M.D. — Vice-Chairman; Stephen Vilmer, M.D. — Secretary/Treasurer; David Auner, M.D. — delegate; Jennifer Ashby, M.D. — Alternate Delegate; Charles Barbee, M.D. — Councilor; and William Dorzab, M.D. — Vice-Councilor.

Following the election, James Prevost, M.D., spoke on the "JCAH Agenda for Change." Dr. Prevost, a psychiatrist, is currently Director of the Department of Research and Development for the Joint Commission on Accreditation of Hospitals in Chicago, Ill.

J. Michael Conoyer, M.D., newly appointed to the Missouri Board of Registration for the Healing Arts, gave the second presentation of the day. Dr. Conoyer, an otolaryngologist from St. Peters, Mo., spoke on "Mandatory Reporting Requirements by Hospitals Under S.B. 663."

The last presentation of the day was given by MOMEDICO President Richard V. Bradley, who addressed "Professional Liability Insurance & Risk Management." Following Dr. Bradley's speech, the meeting was adjourned. Plans for the next HMSS meeting are in the works. For additional information on the HMSS, contact the MSMA office, P.O. Box 1028, 113 Madison, Jefferson City, MO 65102. ■

MSMA Progress Notes

Medicaid system edit program

The Medicaid system edit program was designed to deny reimbursement for physician services provided to an inpatient hospital recipient on those dates of service which exceed Medicaid's length-of-stay limitation. The system edit has been in operation for two years, although on a limited basis.

In November 1986, the edit was fully operational and the result has been a significant number of denials. Some issues which were not anticipated have been raised by the denials. In addition, the impact on expenditures has been much greater than expected. Consequently, Medicaid is turning off the system edit until they can re-evaluate the policy limitation.

If you have any questions regarding this edit, please contact Medicaid Provider Relations at 1-800/392-0938 and they will try to identify the claim. ■

On January 10 MSMA President H. Peter Ekern installed William C. Banton II, M.D. as the new president of the St. Louis Metropolitan Medical Society (SLMMS). Pictured at left at the formal ceremony are, front row: Carol F. Williams, M.D., immediate past-president of SLMMS; Jack Kayes, M.D., president-elect of SLMMS; back row: H. Peter Ekern, MSMA president; William C. Banton II, M.D., president of SLMMS.

Highlights of January 31 Council meeting

The MSMA Council held its January 31 Council meeting at the Hilton Inn in Columbia. Highlights of that meeting include:

- Dr. Richard C. Hedges, N. Kansas City, resigned from his position as Councilor from District 1. Under MSMA bylaws, the Vice-Councilor from District 1, Dr. Gary A. Dyer, St. Joseph, becomes the Councilor.
- Valerie Peters is the new editorial assistant at MSMA. MSMA Executive Vice President Royal Cooper introduced her to the Council. Ms. Peters will assist Kay Dinolfo, director of communications, and Susan Gold, managing editor of *Missouri Medicine* with the design, layout and writing of MSMA publications. Originally from Bertrand, Mo., Ms. Peters graduated in December 1986 from the University of Missouri School of Journalism with a B.J. in magazine.
- Having just completed their annual audit of MSMA, Williams-Keepers accountants report that the Association has assets of $1.7 million. A complete financial statement appears on page 123 of this issue.
- The Council approved voting proxies for MSMA shares at the Annual Meetings for both MSMI and MOMEDICO.
- Mr. Cooper explained AMA's pilot program in Michigan regarding installment payment of dues. Although the AMA's final report on this will not be made until December 1987, Mr. Cooper received the Council's permission to explore the feasibility of credit card payment of dues. This would require most of the component societies to accept credit card payments.
- The Council approved opening a separate bank account for the Physician Rehabilitation Committee.
- The Council reappointed Jordan W. Burkey, M.D., as editor of *Missouri Medicine* for 1987-1988.

- A PRO "update" report was distributed, outlining the overall functions and operations of the Foundation. This report was accepted by the Council.

- The Council accepted a report from the group now conducting the IPA/HMO Feasibility Study. After surveys of business and consumer attitudes are completed, a more comprehensive report should be available at the April Annual Convention.

- The MSMA Commission on Medical Economics recommended that MSMA submit a resolution to the Annual Convention in April 1988 addressing the issue of participating/non-participating physicians.

- The report of the Committee to Preserve Health Care was accepted. Their report reviewed a public opinion survey from December 1986 regarding health care and health care issues in Missouri.

- The Ad Hoc Committee on Sunsetting recommended deletion of 10 policies from the current MSMA policy manual, to review three policies on alcoholism, and to rewrite the policy regarding the definition of death in light of current resources and activities. This committee report was accepted by the Council.

- Dr. Eileen Duggan of the Physician Rehabilitation Committee announced that the financial commitment from the Board of Healing Arts was not included in the Governor's budget. However, MAOPS has committed $18,000 to the program and Risk Control Associates another $5,000. The Committee hopes to form a separate corporation as a 501c3 Foundation which would allow tax-deductible donations to the program and enable the Committee to apply for grants. Joanne Hodgman is the new program coordinator for the Physician Rehabilitation Program.

- Dr. Matthews brought the Council up-to-date on MSMA activities regarding current health and medical legislation pending in the General Assembly.

The next Council meeting will be at 3 p.m., Wednesday, April 1, 1987 at Tan-Tar-A, Lake of the Ozarks. ■

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PIP final call

It's not too late to sign up for the Physician Involvement Program (PIP) for this legislative session.

Many of your colleagues from around the state have already committed themselves to an enlightening, educational day at the Missouri State Capitol.

PIP physicians arrive at MSMA headquarters at 8:00 a.m. on Wednesdays for a briefing, then spend the morning talking to their legislators, visiting the General Assembly and learning firsthand about the lawmaking process. Why don't you join them?

There is still time between now and Wednesday, June 10, to participate. Simply contact MSMA regarding your first, second and third choice of PIP Wednesdays. Once we confirm your PIP date, you'll receive additional information about your PIP visit. On Wednesday afternoon, following your visit, you'll be free to go back home, or do some additional sightseeing or visiting.

Don't pass up this special

opportunity to make an impact on medical legislation. Sign up for your PIP visit today by contacting MSMA, P.O. Box 1028, Jefferson City, MO 65102, 314/636-5151. ■

Medicaid update

The Division of Medical Services (DMS) has published a proposed amendment to the sanctions for false or fraudulent claims for Medicaid Services.

The proposed amendment adds new causes for the imposition of sanctions against a provider including failure to submit timely civil rights compliance data, or failure to take timely corrective action for civil rights compliance deficiencies within 30 days after notification.

When termination from the program is imposed as a sanction against a provider, the period would be for not less than 60 days nor more than 10 years. Additionally, when a sanction involves the collection, recoupment or withholding of Medicaid payment from a provider, it would become effective ten days from the date the provider receives notice. The proposed amendment has a 30-day comment period.

Regarding Medicaid drugs, DMS published a final rule effective February 12, 1987, adding ostomy supplies to the Missouri Medicaid Formulary. The rule also deletes the trade name "Tagamet" and replaces it with the generic name cimetidine. Ranitidine and famotidine were not added to the drug list due to concerns and objectives expressed in the comments. ■

Legislative Update

The Senate gave first-round approval (Perfected) to the Family Practice Residency bill (SB 52). It is scheduled to go to the Budget Committee and later back to the Senate floor for consideration for final passage. If you have not contacted your Senator on this bill, please drop a note supporting SB 52 now!

The move to prohibit smoking in most public places and meetings, SCS 111 and HCS 206, is moving at a steady pace; the tobacco industry dropped its opposition and actually supports these bills.

The "MedAssist Bill" regarding assistance to the medically indigent (see President's Page, page 115) has received much attention, but its progress cannot be predicted at this time.

Registered nurses have been active testifying in favor of HB 44 which would require insurance companies to pay nurses directly for nursing services, and HB 465 which would require Medicaid to direct-pay for certain nursing services. MSMA is opposed to both bills since nurses currently can be reimbursed through their employer and setting up an entirely new category of independent providers would add greatly to health care costs. ■

Canavan scheduled for convention

On Friday, April 3 at the MSMA Annual Convention at Tan-Tar-A, David I. Canavan, M.D. will present "Concepts of Physician Impairment and Rehabilitation."

Dr. Canavan is the medical director of the Impaired Physician Program for the Medical Society of New Jersey. He became the nation's first full-time medical director of a state society-sponsored program. He was hired in 1982.

"Blowing the whistle on an impaired colleague is an act of love," Canavan told a group of Florida physicians in 1985. "We need to intervene early while there is something there to save."

Co-sponsored by the MSMA Physician Rehabilitation Committee and the MSMA Auxiliary, the program will be held from 1:00-4:00 p.m., April 3 in the Windgate South room of Tan-Tar-A. ■

"Assistants at surgery" alert

Starting Sunday, March 1, Medicare payment for any assistant at cataract surgery services must receive prior approval by the local PRO.

Physicians will be prohibited from billing for assistant services individually or as part of the principal surgeon's bill unless the PRO approves the use of the assistant.

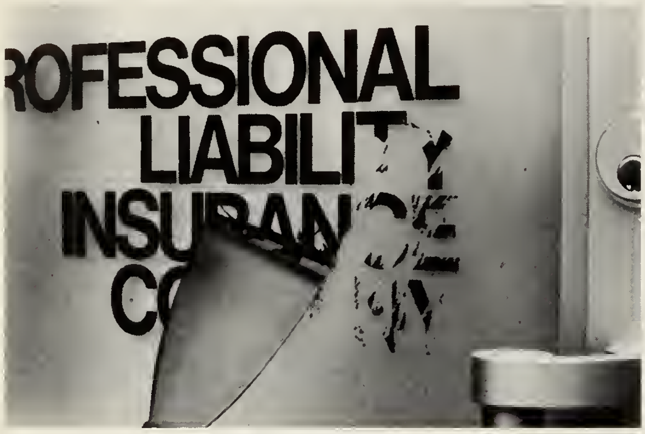
The requirement is one of the many new Medicare reimbursement provisions contained in the Consolidated Omnibus Reconciliation Act of 1985 (COBRA). It is set forth in section 1862(a) of the Medicare law.

HCFA has advised PROs of the implementation date in PRO Transmittal 12 which contains instructions for monitoring of hospital admission notices to beneficiaries. PROs have been directed to apprise ophthalmologists of the requirement before the assistant-at-cataract surgery preprocedure review commences.

Under Section 1862(a) payment for services of an assistant at cataract surgery is prohibited unless the PRO grants prior approval based on the existence of a complicating medical condition and medical necessity. New PRO Manual instructions state, however, that PRO preprocedure determination that the services of an assistant at surgery were warranted by such a condition is not a guarantee of payment. Payment will be denied if subsequent review indicates that the service was unwarranted.

Sanctions can be imposed on ophthalmologists who violate the prior approval provisions. ■

In ten years your malpractice carrier may be just a memory.



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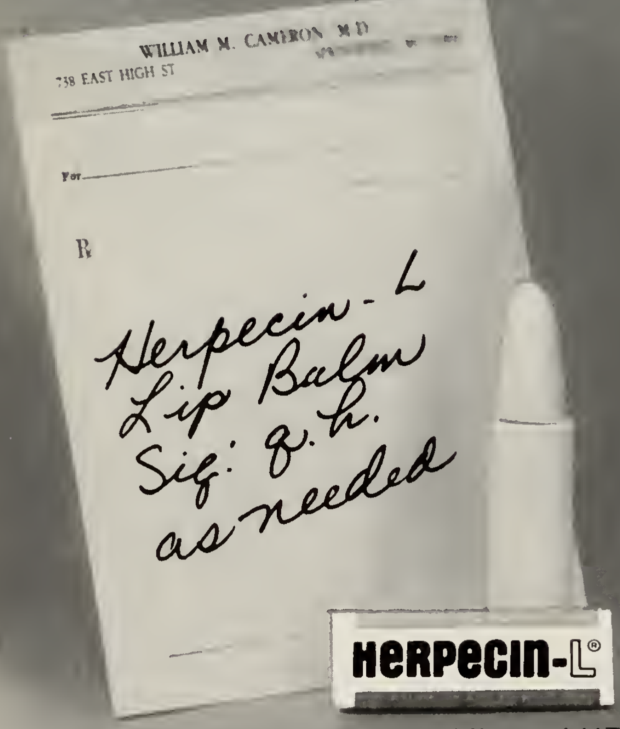

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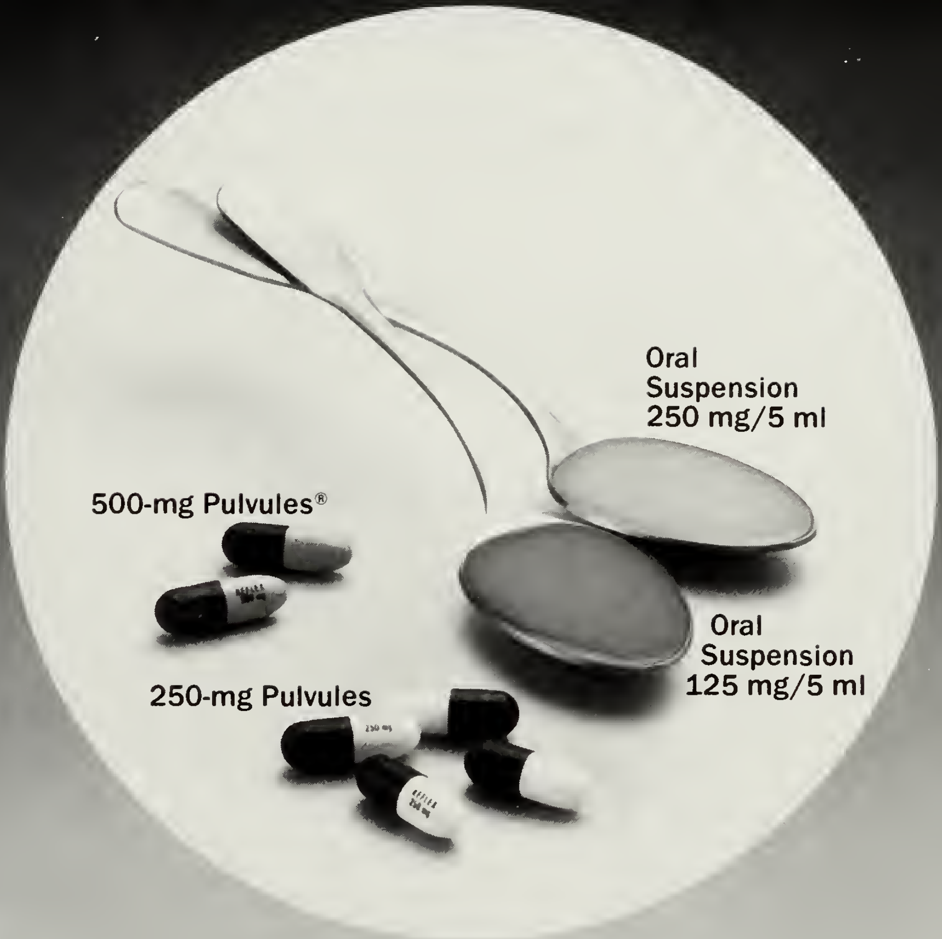
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Reference:
1. Sachs R, Frank M, Fishman SK. Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ. Excerpta Medica, 1984, pp 163-172

GLUCOTROL® (glipizide) Tablets
Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM; type II) after an adequate trial of dietary therapy has proved unsatisfactory.

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin.

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-830, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure.

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur.

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage, and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used.

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful.

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained.

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility.

Pregnancy: Pregnancy Category C: GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible.

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date.

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued.

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections.

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Cholestatic jaundice may occur rarely with sulfonylureas: GLUCOTROL should be discontinued if this occurs.

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus, and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas.

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas.

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions.

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas.

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy.

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit.

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL. In general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia.

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps.

Maximum Dose: The maximum recommended total daily dose is 40 mg.

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided.

HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NDC 5 mg 0049-4110-66) Bottles of 100. 10 mg tablet—Pfizer 412 (NDC 10 mg 0049-4120-65) Bottles of 100.

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Letters to the Editor

A stand against drug testing

Dear Dr. Burkey:

There seems to be a new sport in which physicians are being encouraged to participate. This has the potential of creating a significant adverse effect upon the image of our profession, upon the effectiveness of our public health programs and upon us as individual physicians. We constantly read headlines regarding some person who has had their career ruined by a routine screening program that has detected the use of illicit drugs. Crossing our desks are an increasing number of advertisements from laboratories wishing to provide these services, not only for the benefit of our patients but also to expand our incomes.

Most recently, several federal agencies (the Federal Aviation Agency and the Nuclear Regulatory Commission) have been approaching physicians about including urine drug sampling as part of their "routine annual physical exams." Our altruistic nature helps us understand the importance of these programs to the public safety. However, these same communications carry veiled warnings of the potential hazard for physicians.

The statement, "Of utmost importance will be for you to initiate and carry out the proper 'chain of evidence' procedures" certainly suggests that the intent of these procedures is more administrative than a part of the routine medical practice of these public health programs. As physicians, we should question our roles in any such testing procedures which are not the normal part of our routine practices. It would appear that these agencies and possibly other employers in the future would find it very convenient to shift the liability and responsibility of investigative procedures in the gathering of evidence for prosecution to the medical profession. Is this not opening up another area where the public will view the physician as the bad guy on the block?

It appears that certain questions need to be answered in regards to this "routine" collection of urine samples for drug testing purposes. As physicians, have we been properly trained to "ensure the chain of evidence"? Is this gathering of evidence outside of the usual practice of medicine, and thus not covered by our medical malpractice? If any employee suffers an adverse administrative outcome because of our evidence collecting what liability, yet untested in the courts, are physicians about to suffer? Have physicians been granted any implied or specified immunity from legal action under the guise of protecting the public at large?

Of more practical concern, under the usual physician/patient relationship is it accepted procedure to observe a patient contributing a urinalysis sample? What is an appropriate charge for "ensuring the chain of evidence"? Is it reasonable to expect to be reimbursed at the usual consultant rates if summoned by a federal agency to testify as to the evidence collected during a medical examination for which they paid?

As suggested above, organized medicine should look at these programs carefully and have frank open discussions with those who wish to pursue these evidence-gathering procedures as part of routine medical examinations. It would seem more reasonable that federal and private employers should keep these administrative activities to themselves and train their own security personnel for these activities.

Sincerely,
Lawrence M. Lampton, M.D.
Columbia

WANTED:

- **Opinions**
- **Comments**
- **Suggestions**
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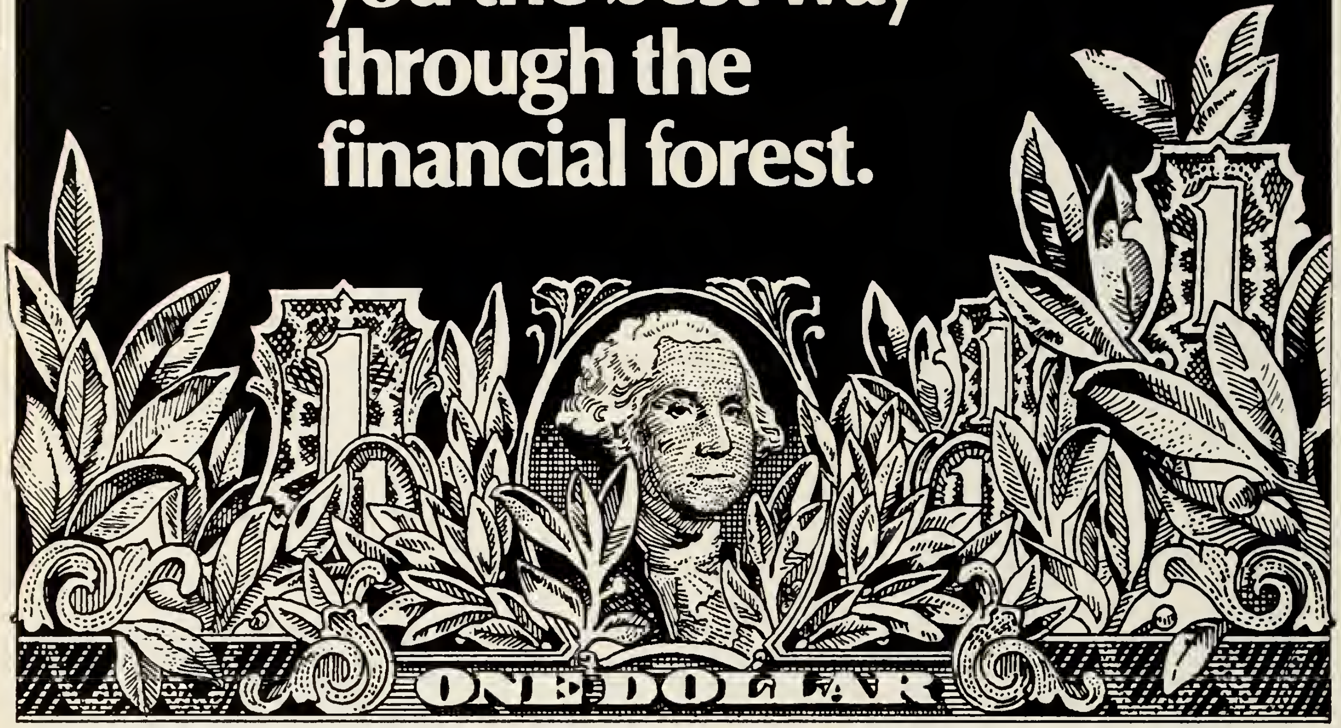

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

It seems at times that we are surrounded on all sides by adversarial forces.

Pioneers and physicians: foes follow both groups

We sometimes wonder what the pioneers thought when crossing the Midwestern plains in their wagon trains and finding themselves surrounded by hostile savages. We've seen enough Western movies to know that they circled their wagons to do battle with the forces surrounding them.

It is not stretching a point too much to compare our forbearers with physicians of today. This may be paranoia, but it seems at times that we are surrounded on all sides by adversarial forces.

Coming at us from the East are government forces complete with constantly changing and constricting Medicare regulations, DRG standards, and implications that we should surrender to the great power of bureaucracy located on the Potomac. This far-off adversary requires long-range weapons defense, items which doctors do not have in any great numbers. Originating from the Kaiser-Permanente West more than 15 years ago has come a medical idea to face in practicing good medicine, the HMO. This concept tends to divide the physician ranks, absorbing some of the doctors, pushing some into IPA counter-organizations, and often straining relations between doctors. It is to be noted that the Eastern aggravators seem to get along well with the HMO groups, giving them full endorsement and support.

From the South, from whence hot winds blow, come expensive potshots, emanating from the band of attorneys. Fronted by storm troops known as trial lawyers, this group has done much to raise the persecution level of the medical profession. These have been formidable adversaries who hide behind forts known as torts. And then, perhaps symbolically from the more frigid Northlands, are the cold-eyed and close-mouthed insurance companies. Nitpicking is their favorite offensive weapon. Icy-voiced personnel from these aggressors like to call doctors at their busiest time to know why payments shouldn't be denied. Over this entire battleground lies a pall of frustration and suspicion, often making it difficult to tell friend from foe.

The pioneers had to be organized to fight back, and it is obvious that as physicians we have to be active and organized — *really* organized — to combat all the enemies of good medical care which seem to surround us. Local, specialty, regional and state medical societies all must provide the information, mechanics and leadership necessary to protect our freedom to practice good medicine.

The way we remember those old movies, the good guys did tend to win. ■

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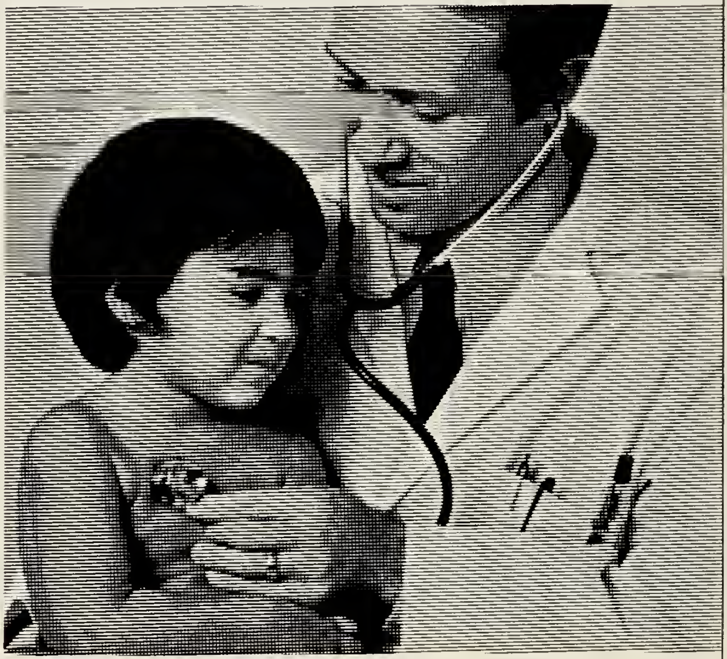

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All in all, your Army Family Practice will be a rewarding experience. Not only for you, but for Army families, too. Talk to your Army Medical Department Counselor for more information.

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ARMY MEDICINE. BE ALL YOU CAN BE.

PRESIDENT'S PAGE

by H. Peter Ekern, M.D.

More than 617,000 Missourians qualify as medically indigent and this figure includes 300,000 non-elderly.

Missouri's medically indigent

The Missouri General Assembly commissioned the "Missouri Indigent Health Care Study" to examine current changes in our health care system which may increase access problems for the medically indigent. A person who is medically indigent lacks either insurance coverage or finances to obtain needed care.

The thorough study identified the size and characteristics of our state's medically indigent population. Health care financing and utilization patterns were examined. Our current publicly-supported health care programs were analyzed. The professional liability and lawsuit crisis' effect on access to physician care was explored. The role of the hospital was evaluated and the alternate finance and delivery methods were examined.

The results?

More than 617,000 Missourians are medically indigent, including 300,000 non-elderly. This sub-group included low-income persons who became medically indigent due to economic conditions, especially the farm crisis.

There were 41 different publicly-supported programs which finance or provide direct health care for low-income persons in Missouri. These provided $1.7 billion in 1985, two-thirds of which was used to finance hospital in-patient care or long-term care services.

Professional liability costs and increased lawsuits have altered Missouri physicians' practices. Increased fees, more conservative practice style, avoidance of high-risk patients, reduced Medicaid case loads, and refusal to accept new low-income patients are the most common changes. Physicians are not providing care at local health department clinics, especially OB care; this is a significant change. Fortunately, Gov. Ashcroft has proposed to expand the Medicaid program for pregnant women and infants up to two years of age.

Missouri hospitals do provide care to the medically indigent, and the impact of providing such care was examined in this study. There are three components of "uncompensated hospital care": contractual allowance is the difference between the hospital charge and the amount actually paid by insurers; charity care is provided gratis; and bad debt is hospital bills which are not paid by people who are considered able to pay. Uncompensated care provided by Missouri hospitals doubled between 1980 and 1985; children's hospitals have been especially hard hit. Medicaid did not cover these uncompensated costs and it is interesting to note that of the 156 Missouri hospitals, 45 were in the red and five closed in 1986.

Change is required so that alternative methods of providing and financing health care will extend coverage to low-income groups with high

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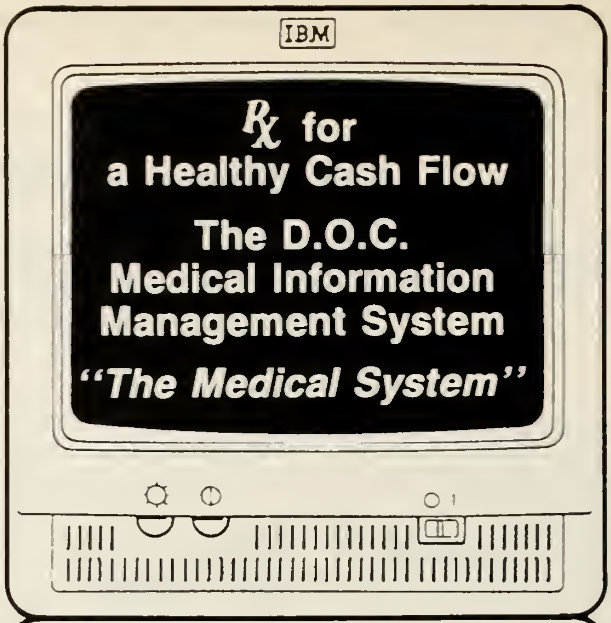
■ President's Message

Continued from page 115

health care needs. Care must be provided in a cost-effective manner with maximum use of federal funds. As mentioned, Medicaid may be expanded. In addition, the following changes may take place: more efficient integration and coordination of public programs; review of the possible use of physician extenders; increased assistance to local health departments; expansion of the "Good Samaritan" law to include obstetric emergencies; including physicians in the Legal Defense Fund; providing certain immunity to physicians providing care requested by the local health departments, and changing hospital reimbursement and reporting requirements.

Through a 1-cent sales tax, House Bill 145, the MedAssist Bill, would establish a state-funded program to provide health insurance coverage for the state's uninsured and underinsured. "Missouri Forum," a weekly public-service program hosted by Rod Gelatt, recently featured Rep. Jerry Burch and Missouri Hospital Association President Charles Bowman discussing indigent health care in Missouri. Special emphasis was on the MedAssist Bill. After hearing all of the debate, it seems that if kept to a bare-bones concept to fill the gap, this could be a worthwhile bill.

As Missouri physicians, we need to be active and assist the Legislature to arrive at a reasonable solution to this societal problem. ■



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Auxiliary Message

by Sandy Mitchell
MSMAA President-elect

Now is the time for the team of physician and spouse — Medicine and Auxiliary — to integrate the responsibility of promoting Medicine's image.

The Auxiliary: Medicine's public relations director

There is an old Chinese proverb — If you can't sell your people, sell your product. If you can't sell your product, sell your service.

Medicine has addressed the issue of product and service but seems hesitant to address the most important consideration, its people. If patients and community could better understand the physician and the physician's spouse as caring, concerned, active and interested people, a better understanding and a more effective relationship would exist between Medicine and the public it serves.

Negative attitudes towards Medicine shall not prevail in Missouri. Positive attitudes will. Educational efforts will be made by the Auxiliary to back up with fact and reinforce with community involvement the positive side of Medicine. Medicine is in its most difficult hour. Controls are greater, third party payments are down, patients are frightened and confused, and liability is at a peak.

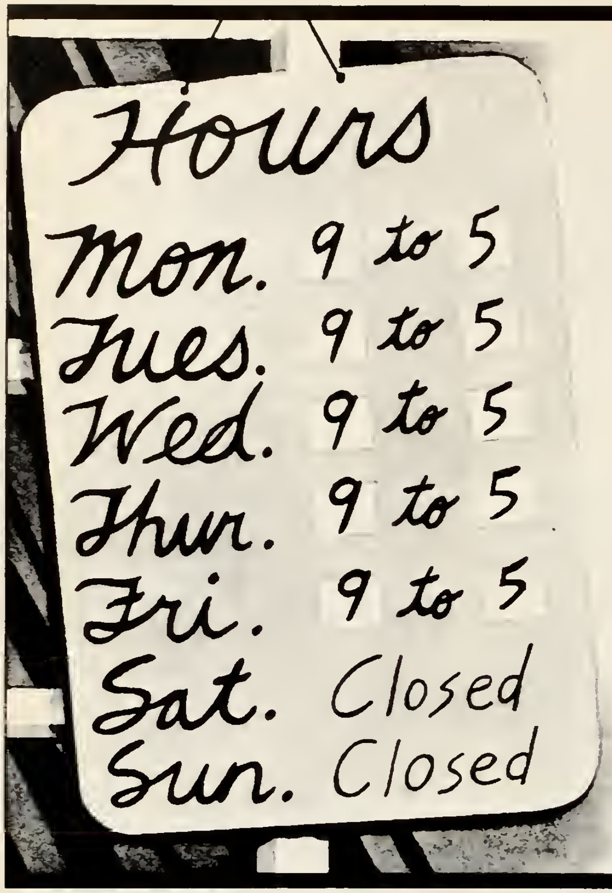
Now is the time for those of us in Medicine to cease our whimpering, stand erect, promote our profession, and work to improve our image as physicians, medical families, and Medicine in general. Physicians alone cannot and should not be expected to accomplish this goal.

Today, if there is a public relations problem we hire an expert to research the problem and wage a campaign. These campaigns unfortunately fall short of their goals as the expert does not live the life of Medicine and does not have a vested interest in the profession itself. Medicine, however, has its own public relations expert, its Auxiliary. By better utilizing the talents of the Auxiliary, Missouri Medicine can promote a positive image in the state.

Auxiliary members are teachers, analysts, M.D.s, R.N.s, merchandising consultants, attorneys, CPAs, students, legislators, housewives, mothers and many other diversified professionals. Growing numbers of Auxiliary members work with their physician spouse in the practice of Medicine. Conversations at Auxiliary meetings sometimes parallel those of medical staff meetings as members compare methods of dealing with third party carriers, patient education on health issues, more efficient collections and ways of most effectively combining career, marriage and family.

School boards, city councils, PTA, and college governing boards carry the names of many Auxilians and utilize their abilities. The abundance of knowledge and potential that can be drawn from this group is

Continued on page 159



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ranitidine HCl/Glaxo 150 mg tablets

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for healed duodenal ulcer patients

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Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*$p=0.02$
†$p=0.01$
‡$p \leq 0.004$
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

No significant interference with the hepatic cytochrome P-450 enzyme system at recommended doses

ZANTAC 150 mg has no significant drug interactions with theophylline, phenytoin, or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications that decrease gastric acidity are administered.

Zantac® 150
ranitidine HCl/Glaxo *150 mg tablets*

One tablet at bedtime
for maintenance

See next page for references and
Brief Summary of Product Information.

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Zantac® 150

ranitidine HCl/Glaxo *150 mg tablets*

One tablet at bedtime for maintenance therapy in healed duodenal ulcer patients

References:

1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer. *J Clin Gastroenterol* 1985;7(6):482-487.
2. Gough KR, Korman MG, Bardhan KD, et al: Ranitidine and cimetidine in prevention of duodenal ulcer relapse: A double-blind, randomised, multicentre, comparative trial. *Lancet* 1984;ii:659-662.
3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

The following is a brief summary only. Before prescribing, see complete prescribing information in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicated in:

1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.

2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.

3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).

4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.

5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy and is maintained throughout a six-week course of therapy.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states, and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DOSAGE AND ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the action of cytochrome P-450 enzymes in the liver, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Lack of experience to date precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in human milk, caution should be exercised when administered to a nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be related to ZANTAC® administration. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain have been reported. There have been rare reports of malaise, dizziness, somnolence, insomnia, vertigo, tachycardia, bradycardia, premature ventricular beats, and arthralgias. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

There have been rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia.

Although controlled studies have shown no antiandrogenic activity, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Incidents of rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia, have been reported, as well as rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

OVERDOSAGE: Information concerning possible overdosage and its treatment appears in the full prescribing information.

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dosage in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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PRACTICE MANAGEMENT

by George S. Conomikes

> "The most difficult problem you have with the phone is that of properly, efficiently serving your patients."

The telephone: servant or tyrant — you decide

"The physician cannot prescribe by letter, he must feel the pulse," said Seneca in the year 65 A.D. But he never heard of the telephone.

Phone calls can be bad; usually there are people with problems at the other end. Some of them can get to you.

One Texas GP told me he had a call in the middle of the night: "Doctor, my little son is feeling bad. Would you mind coming to look at him to see if he is sick enough to require my calling his pediatrician?"

That sure is a smart pediatrician, and a mad GP.

I know a physician, the only one in his rural Alabama town, who took out his phones. "They prevented me from seeing more patients. If anyone is sick, he comes to my office."

There aren't many physicians who can take this attitude, but the most difficult problem you have with the phone is that of properly, efficiently serving your patients.

This starts with the physician. You have to make the decisions as to what your preferences are. Let's list the decisions you have to make:

1. **To call back or not to call back.** Recently I did a consulting project for a four-doctor ENT group that has been in practice since the 1930's. In all these years no physician has ever called back a patient. Nurses do it.

One nurse a day (they rotate) is the "call nurse." She handles all phone calls — from patients, pharmacists, hospitals, lawyers (on medical/legal matters). She also does new patient medical histories as part of her work day.

The call nurse reviews all patient calls with the appropriate physician.

In examining her job, we suggested that patient calls with medical problems be recorded by the telephone receptionist, and that the patient be asked to wait 5-15 minutes for a return call. The call nurse is then able to have the medical records pulled so that the return call to the patient will be more thorough.

In other practices, physicians like to do their own call-backs. They want the phone contact with the patient.

Many solo practitioners and two-doctor practices that are keeping their back office nurse busy can't afford a call nurse. What should they do?

2. **Cluster the call-backs.** You can make eight phone calls in quick sequence faster than you can make five separate calls at different times.

You can also save time if you have your secretary or nurse dial the next call while you are talking with a patient. She asks the next patient to "hold on, the doctor will be right with you." You know that the blinking light on your button phone is the next patient on "hold."

3. **Call back every two hours.** Don't let too many phone messages accumulate to the end of your work day. Do some phoning every 1½-2 hours.

Continued on page 120

■ Practice Management

Continued from page 119

Break your work pattern with office patients. Then those who are calling don't have to wait as long for your calls.

It would be ideal if your phone receptionist could tell callers: "Dr. Smith will return your call between 10:30 and 11:00. Be sure to keep your phone free."

End-of-day calls are often too late to help the patient, are fatiguing to the physician and inefficient.

4. **Have patient records.** While you are talking with a patient, you can record complaints, your analysis and medication or other suggested treatment right in the progress notes. You also have the patient information you want in front of you for complete reference.

Perhaps more important to the control of your phone are the following points:

5. **Do you encourage unnecessary calls?** How? By vague patient communications such as "Call me back in a few days and let me know how you are doing." This encourages the patient to call whether he/she is better or worse; no guidelines.

Try specifics: "If the irritation goes away in three days, then you're improving. If it still bothers you in three days, call me or nurse Jones about 12:00 noon." Then you will eliminate the uncalled-for caller, and have more time for your sick patients.

6. **Can your nurse handle some calls?** Try using a call nurse like the ENT group referred to above, or a modification of their approach. Establish explicit guidelines and review all calls with her. Types of calls most office nurses are capable of handling are: patient education; prescription renewals; dealing with certain types of chronic patients; pre-operative patient calls; and post-op calls.

7. **Do you give your aides specific guidelines for certain patient calls?** Some patient calls could, in many practices, be "fielded" by the telephone receptionist. Examples: certain prescription renewals (with limited dosage); clarification of certain instructions to patients; limited first-aid advice for routine cuts and bumps that will later be attended to by the doctor; hospital admission procedures; relatives of patients.

If you decide to do some of these things, by all means have your guidelines and specific instructions written and posted near the telephone receptionist or, if not posted, then in an accessible looseleaf notebook. Don't rely on her memory. Do have her review all such patient communications with you religiously at a daily or twice daily "telephone review session." ■

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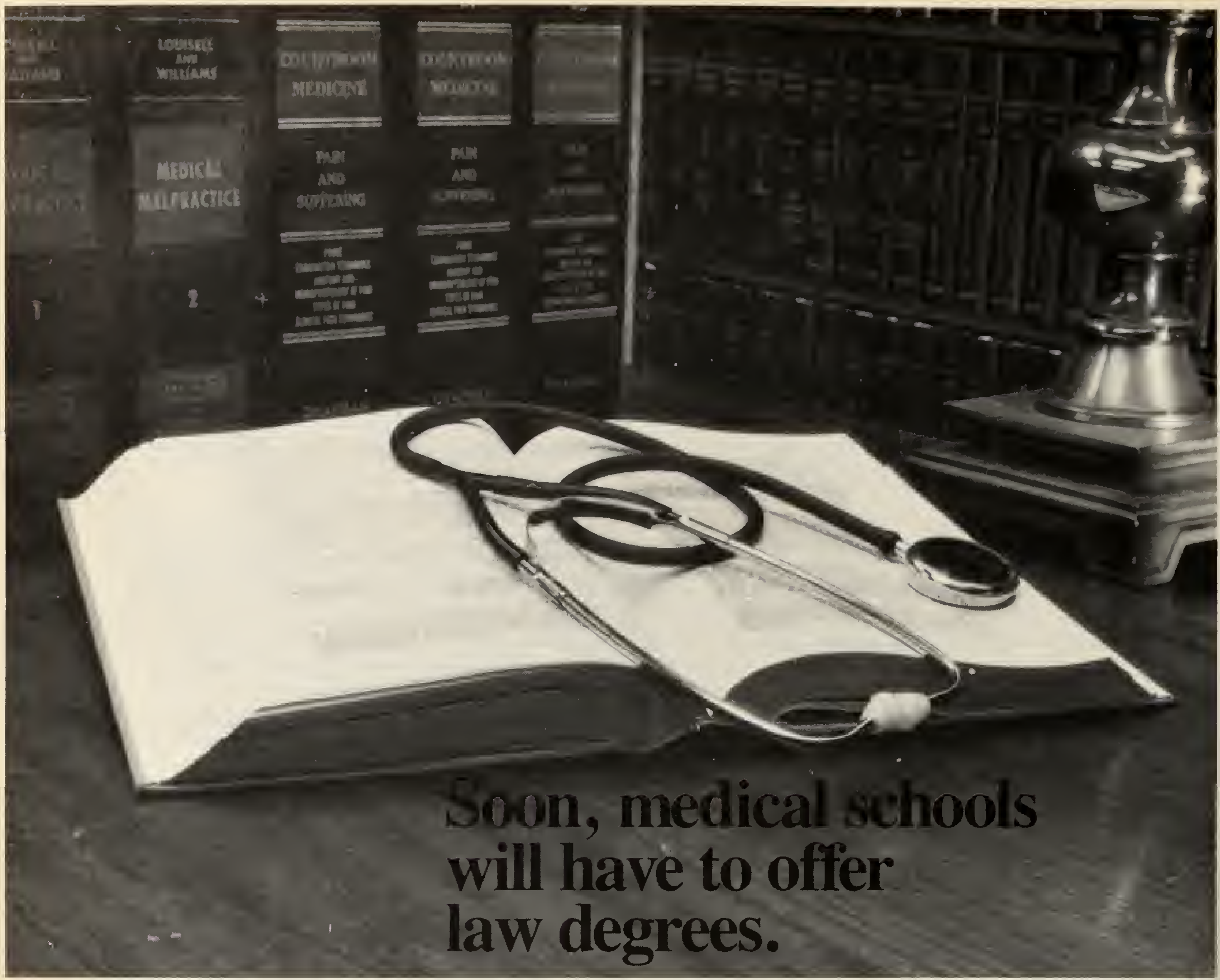
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FINANCIAL STATEMENT FOR THE YEARS 1986 AND 1985

MISSOURI STATE MEDICAL ASSOCIATION

WILLIAMS-KEEPERS
Certified Public Accountants
Jefferson City, Missouri 65101

To the Council of
the Missouri State Medical Association:

We have examined the accompanying balance sheets of the Missouri State Medical Association as of December 31, 1986 and 1985, and the related statements of revenues and expenses and changes in members' equity for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We did not examine the financial statements of Missouri Medical Insurance Company, an unconsolidated affiliate, the investment in which, as discussed in Note 5 of the Notes to Financial Statements, is accounted for by the equity method of accounting. The investment in Missouri Medical Insurance Company represents 19% of the assets as of December 31, 1986 and 1985, respectively. The financial statements of Missouri Medical Insurance Company for 1985 and 1984 (latest available reports) were examined by other auditors whose reports have been furnished to us, and our opinion expressed herein, in so far as it relates to the amounts included for Missouri State Medical Association, is based solely on the reports of the other auditors.

The opinion of the other auditors, referred to in the preceding paragraph, was qualified subject to their inability to evaluate the reasonableness of the estimated reserve for losses and loss adjustment expenses due to the insufficient historical claims experience of the Missouri Medical Insurance Company. Additional losses ultimately realized, if any, will affect the carrying value of the Association's investment in the Missouri Medical Insurance Company.

In our opinion, based on our examinations and the reports of the other auditors referred to above, and subject to the effects, if any, on the financial statements of the ultimate resolution of the matter referred to in the preceding paragraph, the financial statements referred to in the first paragraph present fairly the financial position of Missouri State Medical Association as of December 31, 1986 and 1985, and the results of their operation for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

The accompanying information shown on pages 13 to 14 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Our examinations of the basic financial statements were made for the purpose of forming an opinion on those statements taken as a whole. The accompanying financial information has been subjected to the auditing procedures applied in the examinations of the basic financial statements and, in our opinion, the accompanying information is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

January 16, 1987 *Williams-Keepers*

MISSOURI STATE MEDICAL ASSOCIATION
BALANCE SHEETS
December 31, 1986 and 1985

ASSETS	1986	1985
CURRENT ASSETS		
Cash and cash investments (Note 2)	$ 730,032	$665,210
Marketable equity securities (Note 3)	186,676	173,051
Accounts receivable	13,824	11,579
Travel advances	1,141	1,283
Prepaid income tax	755	755
Due from subsidiary (Note 11)	2,173	
Due from affiliate (Note 11)	3,000	
Accrued interest receivable	5,000	
Total current assets	942,601	851,878
INVESTMENTS AND LONG-TERM RECEIVABLES		
Common stock of MSMI, Inc., a 100% owned unconsolidated subsidiary, at cost plus equity in undistributed net income (Note 4)	20,478	46,849
Common stock of Missouri Medical Insurance Company, a 10.8% owned affiliate, at cost plus equity in undistributed net income (Notes 5 and 9)	322,775	322,775
Note receivable from affiliate (Note 6)	100,000	100,000
Total investments and long-term receivables	443,253	469,624
PROPERTY AND EQUIPMENT, at cost (Note 7)		
Land	83,000	83,000
Buildings	230,648	230,648
Furniture and equipment	161,267	159,194
	474,915	472,842
Less accumulated depreciation	177,590	142,154
Total property and equipment	297,325	330,688
	$1,683,179	$1,652,190

The Notes to Financial Statements are an integral part of these statements.

LIABILITIES AND MEMBERS' EQUITY	1986	1985
CURRENT LIABILITIES		
Accounts payable and accrued expense	$ 2,757	$ 7,518
Due to the American Medical Association (AMA)	232,101	192,205
Due to the Missouri State Medical Foundation	10	7,415
Due to County Medical Societies	12,959	9,695
Deferred revenue	260,027	120,725
Liability under capital lease, current portion (Notes 7 and 10)		2,123
Note payable, unsecured, 10.5% due January 5, 1986		100,000
Total current liabilities	507,854	439,681
LONG-TERM DEBT		
Liability under capital lease, non-current portion (Notes 7 and 10)		5,241
Subordinated notes payable (Notes 8 and 9)	590,781	590,781
Total long-term debt	590,781	596,022
MEMBERS' EQUITY (Notes 9 and 10)	584,544	616,487
	$1,683,179	$1,652,190

MISSOURI STATE MEDICAL ASSOCIATION
STATEMENTS OF REVENUES AND EXPENSES
Years Ended December 31, 1986 and 1985

REVENUES	*1986*	*1985*
Dues	$ 695,727	$703,355
Subscriptions	18,814	18,112
Exhibit rentals	13,800	21,300
Advertising	67,981	62,657
Telenet system	4,551	10,571
Commissions on collections	23,368	26,886
Label sales	6,083	6,085
Investment income including net gains on sales of investments	86,351	84,064
Miscellaneous	1,329	2,297
Administrative fees and office rent (Note 11)	36,282	16,766
Seminars and workshops	41,350	13,350
Physicians Rehabilitation Program	7,950	
Total revenues	1,003,586	965,443
EXPENSES		
Salaries and fringe benefits (Note 12)	421,026	378,387
Office expense	85,447	84,299
Interest expense	8,740	11,819
Travel expense	6,678	11,769
Commissions and committees expense	3,418	4,003
Depreciation	35,436	33,100
Womens Auxiliary	7,277	7,168
Journal expense	132,054	126,009
Meeting expense	157,092	162,467
Public affairs	26,191	31,032
Telenet system	5,997	15,206
Consultant and professional fees	32,183	31,521
Public relations program	4,575	15,368
Student awards	1,200	400
Tort Reform	25,771	16,004
Miscellaneous	7,977	6,792
Seminars and workshops	34,966	11,756
Physicians Rehabilitation Program	38,130	3,575
Total expenses	1,034,158	950,675
Excess of revenues (expenses) over expenses (revenues) before equity in net income of investments	(30,572)	14,768
Equity in net income (loss) of MSMI, Inc. (Note 4)	(1,371)	98,248
Excess of revenues (expenses) over expenses (revenues)	$ (31,943)	$113,016

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL ASSOCIATION
STATEMENTS OF CHANGES IN MEMBERS' EQUITY
Years Ended December 31, 1986 and 1985

	1986	*1985*
Members equity, beginning, as previously reported	$ 616,487	$665,521
Adjustments applicable to prior years (Note 9)		(160,797)
Restatement to reflect change in accounting for leases (Note 10)		(1,253)
Members' equity, beginning as restated	616,487	503,471
Excess of revenues (expenses) over expenses (revenues)	(31,943)	113,016
Members' equity, ending	$ 584,544	$616,487

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL ASSOCIATION
NOTES TO FINANCIAL STATEMENTS

Note 1. *Significant Accounting Policies*

Dues:

Dues are assessed to members on a calendar year basis. On December 31 of each year, members delinquent in payment of dues forfeit their memberships. The Association may also collect from members, dues and assessments of the American Medical Association and County Medical Societies, which are then forwarded to the respective organizations by the Association. The Association receives a fee for providing this service. Amounts received from members prior to January 1 of each year, which represents the subsequent year's dues, are recorded as deferred revenue.

Valuation of accounts receivable:

Accounts receivable are stated at face amount with no allowance for doubtful accounts. An allowance for doubtful accounts is not considered necessary because probable uncollectible accounts are immaterial.

Income taxes:

The Association is exempt from federal income taxes under the Internal Revenue Code Section 501(c)(6). Any unrelated business income is subject to federal income tax.

Property and equipment:

Property and equipment are carried at cost. Depreciation is computed by the straight-line method based on estimated useful lives of the related assets.

Note 2. *Cash and Cash Investments*

The balance of cash and cash investments at December 31, 1986 and 1985 consisted of the following:

	1986	*1985*
Petty cash	$ 50	$ 50
Cash in bank, Executive Secretary Account	1,775	1,862
Cash in bank, Treasury Account	344	18,958
Cash in bank, Physicians Rehabilitation Program	1,550	
Money Market Fund	51,245	35,370
Certificates of deposit	675,068	608,970
	$730,032	$665,210

Note 3. *Marketable Equity Securities*

Investments in marketable equity securities are carried at the lower of aggregate cost or market. At December 31, 1986 and 1985, the Associations' portfolio of marketable equity securities had an aggregate cost of $186,676 and $173,051 and an aggregate market value of $186,954 and $185,248.

Note 4. *Investment in Unconsolidated Subsidiary*

The Association's investment in MSMI, Inc., a 100% owned unconsolidated subsidiary, is carried at cost ($2,000) plus equity in the undistributed net earnings since the date of acquisition. At December 31, 1986 and 1985, the investment in the subsidiary is carried at $20,478 and $46,849, respectively.

Condensed financial data relating to the subsidiary follows:

For the Years Ended December 31

	1986	*1985*
Net current assets	$ 8,478	$ 35,864
Other assets (investment in common stock of Missouri Medical Insurance Company)	15,000	15,000
Less liabilities	(3,000)	(4,015)
Net assets	$ 20,478	$ 46,849
Income	$ 3,137	$158,952
Expenses	5,676	(9,341)
	(2,539)	149,611
Income taxes	(1,168)	(51,363)
Net income (loss)	$ (1,371)	$ 98,248
Dividends paid to the Association	$ 25,000	$ 66,000

Note 5. *Investment in Affiliate*

The Association exercises significant management control over its affiliate, Missouri Medical Insurance Company (MOMEDICO), by virtue of its ownership of 60.6% of the voting rights of the Company. At December 31, 1985 and 1984, the Association owned 10.8% of the outstanding common stock of its affiliate and the Association's investment in MOMEDICO is carried at cost of $383,091 plus $(60,316) equity in undistributed net earnings since date of acquisition.

Condensed financial data relating to the affiliate follows:

For the Years Ended December 31

	1985	*1984*
Investments	$18,776,187	$14,708,539
Other assets	1,511,361	988,417
Total assets	20,287,548	15,696,956
Reserve for losses and loss adjustment expenses	14,801,330	11,412,786
Other liabilities	3,985,413	2,789,798
Total liabilities	18,786,743	14,202,584
Revenues	6,755,213	5,874,413
Expenses	7,282,896	5,907,178
	(527,683)	(32,765)
Realized gains (losses) on investments	527,683	(37,831)
Net income (loss)	$ -0-	$ (70,596)

Note 6. *Note Receivable From Affiliate*

On July 10, 1985, the Association advanced $100,000 to its affiliate, Missouri Medical Insurance Company, (MOMEDICO) and received an unsecured convertible subordinated note in the principal sum of $100,000. The note bears simple interest at a rate of 10% per annum to be paid annually upon approval of the Missouri Division of Insurance.

Repayment of the note will be made in 1988 if MOMEDICO, as calculated at June 30, 1988 and in accordance with accounting principles prescribed or permitted by the Division of Insurance of the State of Missouri, has a minimum capital and surplus of $2,000,000. Principal payments on the outstanding notes will be made only to the extent that the capital and surplus exceeds the $2,000,000 minimum. At this time, the Association has the option of accepting one share of Class B, common stock for each $25 of principal and interest due and payable. However, MOMEDICO may decline such a conversion in the event that less than 100,000 shares are requested for conversion by note holders. Payments thereafter on non-converted notes will only be to the extent that the capital and surplus of MOMEDICO, calculated as previously disclosed and at the end of each fiscal year, exceeds the $2,000,000 minimum.

Note 7. *Capital Lease*

The Association leased its telephone system under a lease/purchase agreement during 1986 and 1985. The original term of the lease was sixty months but in December 1986, the Association retired the obligation. The telephone system is included in property and equipment at a cost of $11,286 with a provision for accumulated depreciation at December 31, 1986 and 1985 of $7,900 and $5,643, respectively. Depreciation recorded for the years ended December 31, 1986 and 1985 was $2,257 and $2,257, respectively.

Note 8. *Subordinated Notes Payable*

In 1978, the Association formed a wholly owned subsidiary, Missouri Medical Insurance Company (MOMEDICO) to provide professional liability and premises liability insurance for physicians and support technicians practicing in the State of Missouri. Before obtaining professional liability insurance through MOMEDICO, physicians residing in the State of Missouri were required to subscribe to non-interest bearing subordinated notes based upon the physician's underwriting classification. These notes were issued by the Association and the subscriptions were payable over a three year period.

The Association was the sole stockholder of MOMEDICO prior to the public stock offering of MOMEDICO in 1980. At that time, the requirement to purchase subordinated notes was eliminated with new policies effective after January 31, 1980.

In connection with the public stock offering in 1980, MOMEDICO assumed, in exchange for 100,815 of the 125,000 shares of the Class B common stock the Association held in MOMEDICO, the face value of the subordinated notes issued and outstanding. MOMEDICO also assumed the balance of the installments receivable on the subordinated notes and a bank note payable from the Association. Under an exchange offer made by MOMEDICO, holders of the Association's subordinated notes could exchange fully paid notes for Class A common stock at the rate of $20 face value per share.

On October 15, 1980, the Association reassumed all notes not exchanged and also the installments receivable on the unexchanged notes as well as an amount equal to the installments receivable of the bank note payable.

The notes require repayment only upon the Association's accumulation of in excess of $3,000,000 of members' equity at the end of any calendar year, that the Association has sufficient funds and assets, exclusive of the amount subject to repayment, to permit it to carry on business, and that the repayment be approved by the Council of the Association. Interest may be paid on the notes, but it is at the discretion of the Council of the Association.

Redemption of the notes are provided for in the event of death, disability, retirement of the holder, or if the holder has moved both his person and his practice out of the State of Missouri. However, redemption for such causes maybe delayed or refused if the Council determines the Association is not on a financially responsible basis to make such redemptions.

At December 31, 1986 and 1985, the balance of the subordinated notes payable was $590,781. This amount reflects the face value of the notes reassumed by the Association on October 15, 1980, less the installments receivable on the outstanding notes, and less all redemptions made from 1981 through 1985. In 1985, the Council of the Association placed a moratorium on the redemption of the subordinated notes.

Note 9. *Prior Period Adjustments*

Errors were discovered in the amounts reported as investment in affiliate, investment in subsidiary and subordinated notes payable in the Association's 1984 financial statements. These financial statements reflect the corrections, the results of which decreased the investment in affiliate by $164,718 decreased the investment in subsidiary by $21,004, decreased the subordinated notes payable by $24,925 and decreased the balance of members' equity at January 1, 1985 by $160,797.

Note 10. *Change in Accounting for Lease*

In 1985, the method of accounting for a lease was changed to comply with Financial Accounting Standards Board Statement No. 13. Under this statement leases which meet specific provisions are capitalized and the related depreciation and imputed interest are charged against revenue in lieu of lease rental expense. The lease/purchase agreement the Association has for its telephone system met the provisions, and these financial statements reflect the retroactive application of this accounting change as members' equity for the years prior to 1985 has been reduced by $1,253.

Note 11. *Related Party Transactions*

The Association provides administrative services to MSMI, Inc. (a wholly owned subsidiary) and Missouri State Medical Foundation (an affiliate). For providing these services, the Association receives an annual fee from each of the two organizations. For the years ended December 31, 1986 and 1985, the administrative fee assessed Missouri State Medical Foundation was $10,000 and the administrative fee assessed MSMI, Inc. was $3,000. The administrative fee assessed MSMI, Inc. for 1986 was outstanding at December 31, 1986.

The Association may also, at times, pay expenses on behalf of its affiliate, the Missouri State Medical Foundation. These amounts are later reimbursed to the Association. For the year ended December 31, 1985, the Association was reimbursed $5,116 for such expenses.

For the year ended December 31, 1986, the Association was reimbursed $11,017 and had an additional amount due of $2,173 from the Missouri State Medical Foundation for reimbursement of expenses.

The Association during 1986, also provided office space, office furniture and office services for its affiliate, Missouri Medical Insurance Company (MOMEDICO). In exchange for providing these services, the Association assesses a monthly fee. For the year ended December 31, 1986 these fees were $15,900.

Note 12. *Pension Plan*

The Association has a non-contributory defined benefit pension plan covering substantially all of its employees. As of April 1, 1986, the Plan was fully funded with no unfunded accrued liability.

A comparison of the actuarial present value of accumulated plan benefits and net assets available for benefits for the plan year ended April 1, is as follows:

Actuarial present value of accumulated plan benefits:

	1985	*1984*
Vested	$294,733	$138,529
Nonvested	2,025	367
Total	296,758	138,896
Net assets available for benefits	385,302	359,497

The average assumed rate of return used in determining the actuarial present value of accumulated plan benefits was 8% for both 1985 and 1984.

The total pension contributions for years ended December 31, 1986 and 1985 were $20,000 and $-0-, respectively.

Note 13. *Income Taxes*

The Internal Revenue Service is currently performing an examination of the Associations' returns filed for the year ended December 31, 1983. At this time, the results of the examination and any possible effects to the Associations' tax exempt status are not known.

MISSOURI STATE MEDICAL ASSOCIATION SCHEDULES OF SELECTED EXPENSES
December 31, 1986 and 1985

	1986	*1985*
SALARIES AND FRINGE BENEFITS		
Salaries	$342,578	$320,744
Payroll taxes	24,286	22,995
Employees life and disability insurance	11,738	12,199
Employees hospitalization insurance	22,424	22,449
Employees pension plan contribution	20,000	
Total salaries and fringe benefits	$421,026	$378,387
OFFICE EXPENSES		
Occupancy expense	$ 11,983	$ 14,401
Office supplies	13,380	13,661
Computer expense	13,482	12,613
Postage	23,081	20,045
Telephone	11,848	13,234
Insurance	3,658	3,994
Taxes, real estate	2,109	1,772
Custodian fees	1,125	571
Equipment rental and repair	2,187	1,792
Dues and directories	2,594	2,216
Total office expenses	$ 85,447	$ 84,299
COMMISSIONS AND COMMITTEES EXPENSES		
Commissions:		
Commission on Medical Economics, Third Party Medicine and Governmental Relations	$ 1,691	$ 2,268
Commission on Continuing Medical Education	1,577	820
Commission on Medical-Legal Affairs	78	362
Commission on Interspeciality Medicine		147
Total commissions expenses	3,346	3,597
Committees:		
Committee on Public Affairs	$ 72	$ 131
Action Committee to Negotiate with Third Party and Hospitals		275
Total committee expenses	72	406
Total commissions and committee expenses	$ 3,418	$ 4,003
Meeting Expenses:		
Annual session	$ 54,443	$61,511
Council	37,404	46,145
AMA delegate's expenses	63,695	53,371
Discretionary Council Fund	1,550	1,440
	$157,092	$162,467

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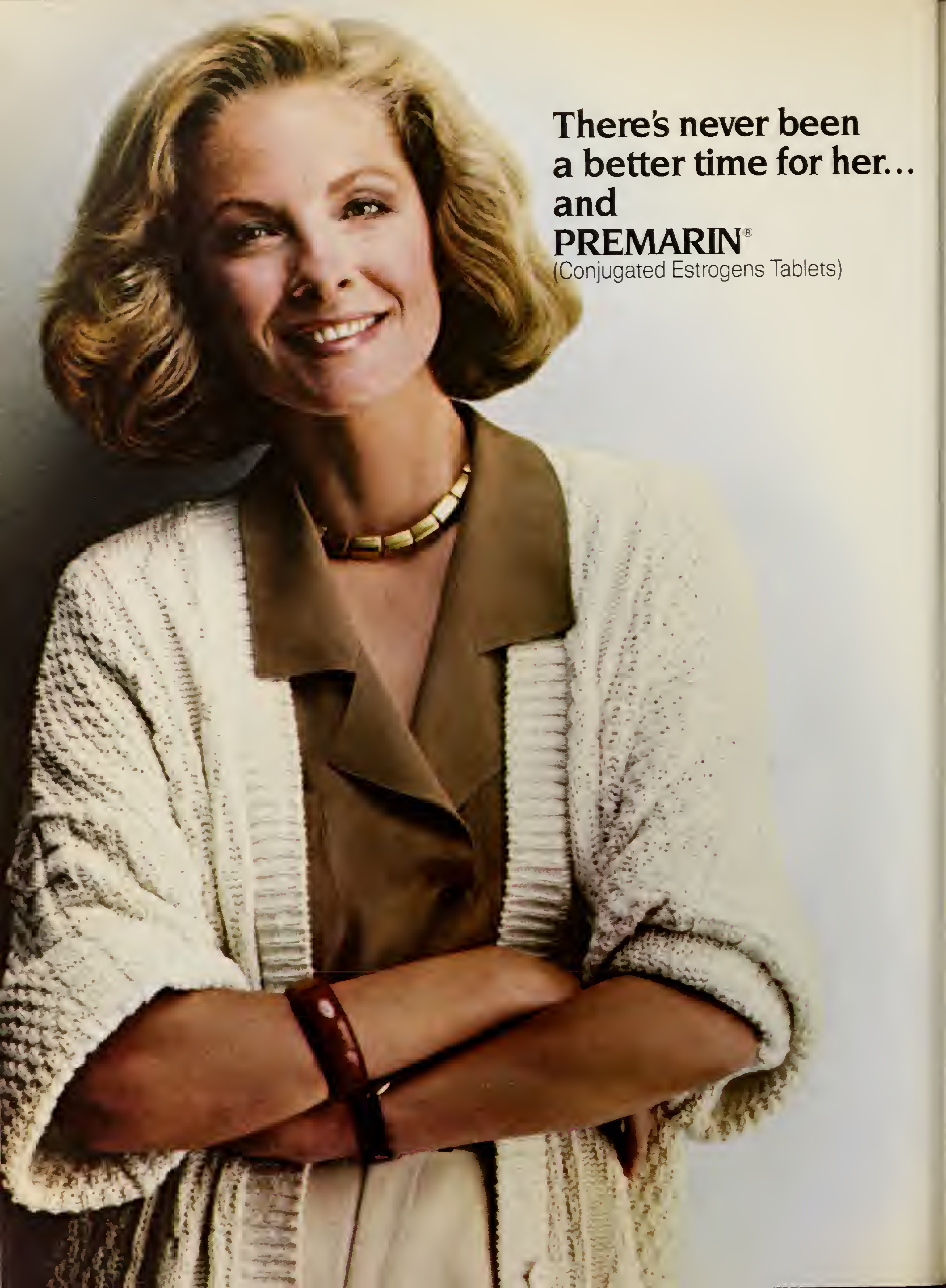
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a better time for her...
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PREMARIN®
(Conjugated Estrogens Tablets)

Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®

(Conjugated Estrogens Tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®

(Conjugated Estrogens Tablets)

0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

The appearance of these tablets is a trademark of Ayerst Laboratories.

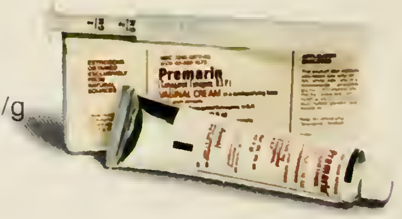
For atrophic vaginitis

PREMARIN®

(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4 5 to 13 9 times greater than in nonusers The risk appears to depend on both duration of treatment and on estrogen dose In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration, it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses

2 ESTROGENS SHOULD NOT BE USED DURING PREGNANCY

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare This risk has been estimated as not greater than 4 per 1,000 exposures Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix Although these changes are histologically benign, it is not known whether they are precursors of malignancy Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000 In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters Tablets are available in 0.3 mg, 0 625 mg, 0 9 mg, 1 25 mg, and 2 5 mg strengths of conjugated estrogens. Cream is available as 0 625 mg conjugated estrogens per gram

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass)**. Atrophic vaginitis Kraurosis vulvae Female castration

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING)

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes Whether this will provide protection from endometrial carcinoma has not been clearly established There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens (See PRECAUTIONS) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions 1 Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease 2 Known or suspected estrogen-dependent neoplasia 3 Known or suspected pregnancy (See Boxed Warning) 4 Undiagnosed abnormal genital bleeding 5 Active thrombophlebitis or thromboembolic disorders 6 A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use They should be used with caution in patients with cerebral vascular or coronary artery disease Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives For this reason, diabetic patients should be carefully observed Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients Oral contraceptives appear to be associated with an increased incidence of mental depression Patients with a history of depression should be carefully observed Preexisting uterine leiomyomata may increase in size during estrogen use The pathologist should be advised of estrogen therapy when relevant specimens are submitted If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen.

a Increased sulfobromophthalein retention

b Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3, increased norepinephrine-induced platelet aggregability.

c Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay Free T3 resin uptake is decreased, reflecting the elevated TBG, free T4 concentration is unaltered

d Impaired glucose tolerance

e Decreased pregnanediol excretion.

f Reduced response to metyrapone test

g Reduced serum folate concentration

h Increased serum triglyceride and phospholipid concentration As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting change in menstrual flow, dysmenorrhea, premenstrual-like syndrome; amenorrhea during and after treatment, increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice, chloasma or melasma which may persist when drug is discontinued, erythema multiforme, erythema nodosum, hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature, intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea, increase or decrease in weight, reduced carbohydrate tolerance; aggravation of porphyria; edema, changes in libido

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0 3 to 1 25 mg or more daily) The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2 *Given cyclically*: Female castration Osteoporosis Female castration—1.25 mg daily, cyclically Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control Osteoporosis —0 625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only For treatment of atrophic vaginitis or kraurosis vulvae

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible

Administration should be cyclic (eg, three weeks on and one week off)

Attempts to discontinue or taper medication should be made at three-to-six month intervals

Usual dosage range 2 to 4 g daily, intravaginally, depending on the severity of the condition

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305 1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric *Br Med J* 1980;280 822-824 **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985, 67: 496-499 **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women *Semin Reprod Endocrinol* 1983,1 1;41-52 **5.** Barnes RB, Roy S, Lobo RA Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985,66:216-219

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FINANCIAL STATEMENTS FOR THE YEARS 1986 AND 1985

MISSOURI STATE MEDICAL FOUNDATION

WILLIAMS-KEEPERS
Certified Public Accountants
Jefferson City, Missouri 65101

To the Board of Directors of
Missouri State Medical Foundation

We have examined the accompanying statements of assets, liabilities and fund balance on a modified cash basis of Missouri State Medical Foundation as of December 31, 1986 and 1985, and the related statements of revenues, expenses and changes in fund balance on a modified cash basis for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As described in Note 1 of the notes to financial statements, the accompanying statements are prepared on the modified cash basis of accounting and, accordingly, are not intended to be presented in conformity with generally accepted accounting principles.

In our opinion, the financial statements mentioned above present fairly the assets, liabilities and fund balance of the Missouri State Medical Foundation as of December 31, 1986 and 1985, and its revenues, expenses and changes in fund balances for the years then ended, in conformity with the Foundation's modified cash basis accounting policy, as described in Note 1 of the notes to financial statements, applied on a consistent basis.

Williams-Keepers

January 16, 1987

MISSOURI STATE MEDICAL FOUNDATION STATEMENTS OF ASSETS, LIABILITIES AND FUND BALANCE

(Modified Cash Basis)
December 31, 1986 and 1985

ASSETS	*1986*	*1985*
Cash	$ 308,818	$ 245,947
Loans receivable, less allowance for doubtful accounts of $41,630 and $39,479 (Note 2)	1,346,068	1,276,500
Equipment, less accumulated depreciation of $1,276	5,103	
	$1,659,989	$1,522,447
FUND BALANCE	$1,659,989	$1,522,447

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL FOUNDATION STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN FUND BALANCE

(Modified Cash Basis)
Years Ended December 31, 1986 and 1985

	1986	*1985*
REVENUES		
Interest on student loans	$ 91,035	$ 74,506
Interest on cash investments	18,340	19,828
Contributions	8,083	7,326
Assessment of Missouri State Medical Association's Members (Note 3)	47,290	47,750
Total revenues	164,748	149,410
EXPENSES		
Administrative (Note 3)	10,216	11,233
Professional (Note 3)	10,377	1,000
Printing and meeting expense (Note 3)	836	4,116
Provision for loan losses (Note 2)	4,447	2,327
Miscellaneous	54	
Depreciation	1,276	
Total expenses	27,206	18,676
Excess revenues	137,542	130,734
Fund balance, beginning	1,522,447	1,391,713
Fund balance, ending	$1,659,989	$1,522,447

The Notes to Financial Statements are an integral part of these statements.

MISSOURI STATE MEDICAL FOUNDATION NOTES TO FINANCIAL STATEMENTS

Note 1. *Significant Accounting Policies*

Method of accounting:

The accounts are maintained and these statements are presented, on a modified cash basis under which, except for the recognition of the assets and liabilities shown on the statement of assets, liabilities and fund balance on a modified cash basis, only cash receipts and disbursements are recorded and reflected in these statements. Since accrued interest on loans receivable and receivables which may be material in amount, are not reflected, the financial statements are not intended to present the overall financial position and results of operations in conformity with generally accepted accounting principles. However, the individual assets shown are presented in accordance with generally accepted accounting principles.

Loans receivable:

Loans receivable are stated at face amount with an allowance for doubtful accounts computed as 3 percent of the balance of the loans receivable at year end.

Tax status:

The Foundation is a not-for-profit organization exempt from federal income taxes under Internal Revenue Code Section 501(c)(3).

Equipment:

Equipment is carried at cost. Depreciation is computed by the straight-line method based on the estimated useful life of the asset.

Note 2. *Loans Receivable*

The Foundation grants low interest loans in multiples of $500 per year for medical students. The following is a summary of the transactions affecting the loans receivable account for the years ended December 31, 1986 and 1985:

		1986		*1985*
Loans receivable at January 1	$	$1,315,979	$	$1,209,199
Add loans advanced	200,000		216,500	
Less:				
Principal repayments	(125,985)		(109,720)	
Loans written off	(2,296)	71,719		106,780
		1,387,698		1,315,979
Allowance for doubtful accounts at January 1	39,479		37,152	
Current year provision for doubtful accounts	4,447		2,327	
Current year loans written off	(2,296)	41,630		39,479
		$1,346,068		$1,276,500

Note 3. *Related Party Transactions*

The Foundation received funds through an assessment on the members of the Missouri State Medical Association. This fee was collected by the Missouri State Medical Association and remitted to the Foundation. For the years ended December 31, 1986 and 1985, the Foundation received $47,290 and $47,750 from the Missouri State Medical Association, representing the 1986 and 1985 fees. This assessment will no longer be made after 1986.

The Foundation is also assessed by the Missouri State Medical Association an annual fee for administrative cost. For each year ended December 31, 1986 and 1985, the Foundation paid the Association $10,000 for administrative cost. The Foundation also reimburses the Missouri State Medical Association for expenses paid by the Association on behalf of the Foundation. These reimbursements for the years ended December 31, 1986 and 1985 were $10,377 and $1,000 for professional fees and $836 and $4,116 for printing and meeting expenses.

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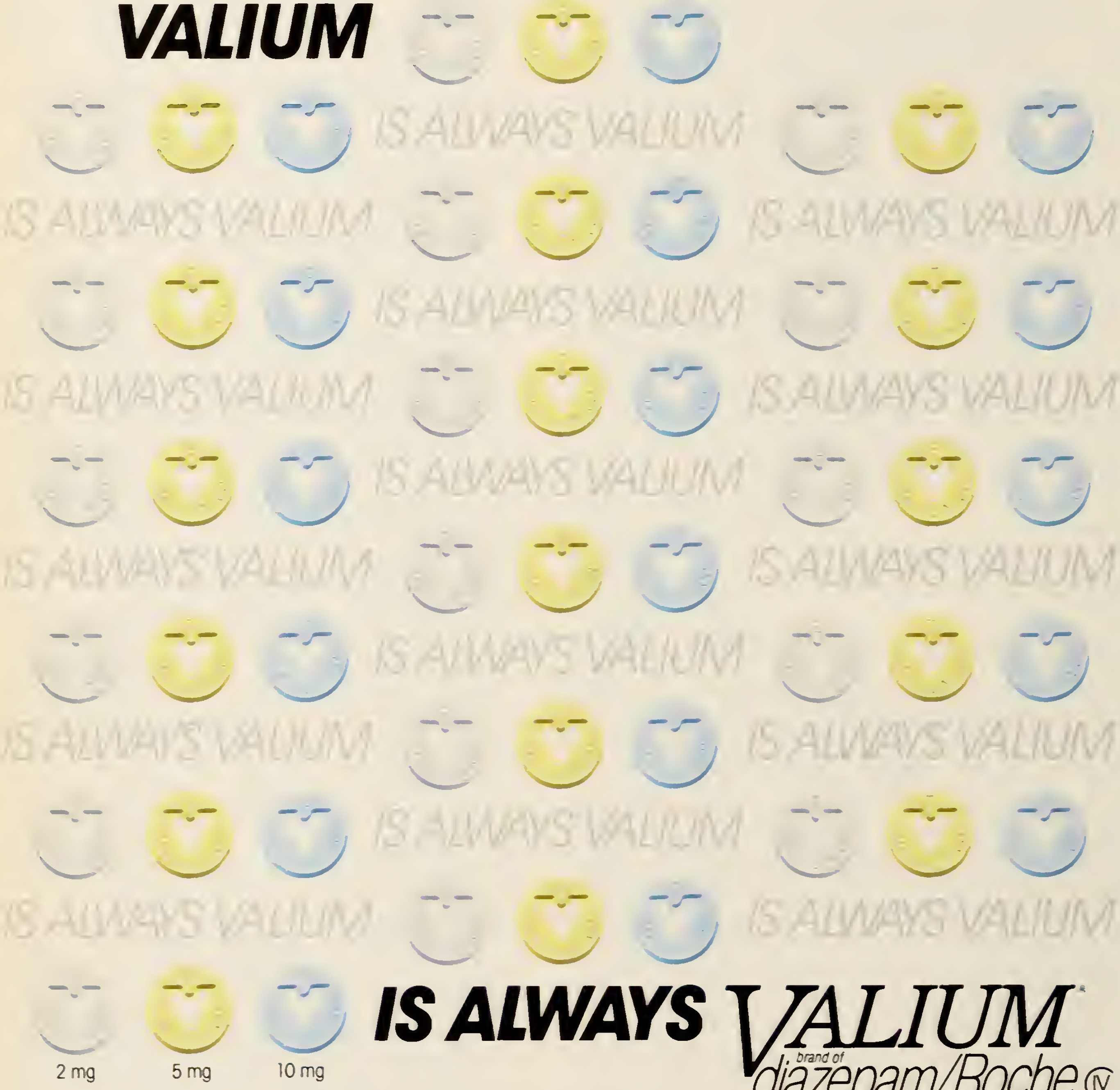
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IT'S THE ONE YOU KNOW BEST.

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MSMA
129th Annual Convention
April 2-5, 1987
Tan-Tar-A, Lake of the Ozarks

Preliminary Program

Friday, April 3
9:00 a.m.
Do Solo and Small Group Practices Have a Chance?

Ask the experts! Nationally acclaimed authorities Dr. Paul Ellwood and Dr. Brant Mittler debate one of today's hottest topics. Following their presentations, the floor will be open for questions from the audience. A unique program with relevance for *every* practicing physician!

Paul Ellwood, Jr., M.D.

Dr. Ellwood is perhaps best known as the inventor of the HMO concept. His firm, Paul Ellwood & Associates, advises hospitals, physicians and insurance systems on positioning themselves in the health care marketplace. Dr. Ellwood's medical training is in neurology, pediatrics, and physical medicine and rehabilitation. He is from Excelsior, Minn.

Brant Mittler, M.D.

Dr. Mittler is co-founder of Physicians Who Care, a San Antonio physicians' group dedicated to promoting the importance of private practice. A cardiologist by training, Dr. Mittler is the group's foremost spokesman and has been both author and subject of numerous radio and television appearances, and journal and newspaper articles.

ALLERGY

Saturday, April 4

8:55 a.m.- 12:00 noon	Scientific Program
12:00 noon	MSAA Luncheon
1:30- 3:45 p.m.	Scientific Program
4:00 p.m.	MSAA Annual Business Meeting

Sponsored by the Missouri State Allergy Association

ANESTHESIOLOGY

Friday, April 3

11:00 a.m.	MSA Luncheon
12:00 noon	Welcome and Introduction, Bhaskara M. Ponnuru, M.D., President of the Missouri Society of Anesthesiologists
12:15 p.m.	*Political Education Seminar* Speaker: Mr. Michael E. Dunn, President, Michael E. Dunn & Associates, Inc., Washington, D.C.
4:00 p.m.	Summary Discussion, Closing Remarks, Wrap-Up
6:30 p.m.	MSA Cocktails and Dinner

Saturday, April 4

7:30 a.m.	MSA Board of Directors Breakfast and Meeting
8:00 a.m.	MSA Continental Breakfast
8:30 a.m.- 12:00 noon	Scientific Program "Monitoring" Speaker: David A. Paulus, M.D., Gainesville, Fla. "New Intravenous Agents" Speaker: H. Ronald Vinik, M.D., University of Alabama, Birmingham, Ala. "Patient Safety" Speaker: John Henry Eichhorn, M.D., Chestnut Hill, Mass.
12:00 noon	MSA Luncheon and Business Meeting
2:00- 4:00 p.m.	Scientific Program "Ventilation" Speaker: Stanley Martin Hall, M.D., L.S.U. Medical Center, New Orleans, La. "Liability Issue" Speaker: John F. Schweiss, M.D., St. Louis University School of Medicine, St. Louis

Sponsored by the Missouri Society of Anesthesiologists

DERMATOLOGY

Friday, April 3

12:00 noon	MDSI Board of Directors Luncheon and Meeting
1.00- 4:40 p.m.	Scientific Program Introduction: Ronald W. Swinfard, M.D., President, Missouri Dermatological Society, Inc., Cape Girardeau "What's New in Urticaria" Speaker: Walter B. Shelley, M.D., Medical College of Ohio, Toledo, Ohio "Mini-Case Presentations" Speaker: N. Eugene Morrow, M.D., Springfield Refreshment Break "My Favorite Drugs" Speaker: Walter B. Shelley, M.D. Questions and Answers Moderator: Ronald W. Swinfard, M.D.
6:30 p.m.	MDSI Cocktails and Dinner

Saturday, April 4

8:00 a.m.- 4:30 p.m.	American Academy of Dermatology Postgraduate Course: "Eczematous, Occupational and Recalcitrant Dermatoses"

Sunday, April 5

9:00 a.m.- 11:00 a.m.	Scientific Program sponsored by MDSI, University of Missouri Health Sciences Center, Outpatient Clinic #3, Columbia "Clinical Case Presentations" Refreshment Break "Discussion of Clinical Cases"
11:00 a.m.	General Membership Meeting of the MDSI

Sponsored by the
Missouri Dermatological Society, Inc.

EMERGENCY PHYSICIANS

Friday, April 3

11:30 a.m.	Luncheon Meeting
11:30 a.m.- 1:30 p.m.	Scientific Program: Torsion of the Testicle "Differential Diagnosis" Speaker: David L. Simon, M.D., St. Louis "Emergency Room Treatment and Triage" Speaker: Timothy Turner, D.O., President, Mo. Chapter, American College of Emergency Physicians, St. Louis "Ultimate Effects and Follow-up" Speaker: George Steinhardt, M.D., St. Louis University School of Medicine, St. Louis "Misunderstandings and Miscommunications: Legal Consequences" Speaker: Saul Boyarsky, M.D., J.D., Washington University School of Medicine, St. Louis. Moderator: Saul Boyarsky, M.D., J.D.

Sponsored by the Missouri Urological Society; Mo. Chapter, American Academy of Pediatrics, and the Mo. Chapter, American College of Emergency Physicians

Saturday, April 4

1:30- 4:30 p.m.	Scientific Program "Open Chest Cardiac Massage" Speaker: Louis R. M. Del Guercio, M.D., New York Medical College, New York, N.Y. "Child Abuse" Speaker: Allen L. Neese, M.D., University of Missouri Hospital and Clinics, Columbia

Sponsored by the Mo. Chapter, American College of Emergency Physicians

FAMILY PHYSICIANS

Saturday, April 4

11:00 a.m.- 12:30 p.m.	Scientific Program "Medical Ethics and Human Values" Speaker: Philip C. Anderson, M.D., University of Missouri-Columbia School of Medicine, Columbia Moderator: Fred Fairchild, M.D., President, Missouri Academy of Family Physicians, Perryville
1:30- 3:00 p.m.	Scientific Program "What Can We Do to Prevent Heart Disease?" Speaker: Brent M. Parker, M.D., University of Missouri-Columbia School of Medicine, Columbia Moderator: Fred Fairchild, M.D.

Sponsored by the Missouri Academy of Family Physicians

NEUROSURGERY

Saturday, April 4

12:00 noon	MSNS Luncheon and Business Meeting

Sponsored by the Missouri State Neurosurgery Society

OBSTETRICS-GYNECOLOGY

Saturday, April 4

10:00 a.m.- 12:00 noon	Scientific Program *Emergencies in Obstetrics and Gynecology* Registration Welcome: David Gearhart, M.D., Vice Chairman, Missouri Section of ACOG "Control of Intra- and Postoperative Bleeding" Speaker: Herbert J. Buchsbaum, M.D., McGee Womens Hospital, Pittsburgh, Pa. "Use of Blood and Blood Products"

Speaker: Russell K. Laros, Jr., M.D., University of California, San Francisco, Calif.
"The Diagnosis and Treatment of Thromboembolic Disease"
Speaker: Russell K. Laros, Jr., M.D.
Luncheon
1:00- Continuation of Scientific Program
4:00 p.m. "Shoulder Dystocia — The Great Obstetrical Impaction"
Speaker: Robert C. Cefalo, M.D., Ph.D., University of North Carolina, Chapel Hill, N.C.
"Amniotic Fluid Embolism — What's New"
Speaker: Robert C. Cefalo, M.D., Ph.D.
"Traumatic Injury in Pregnancy"
Speaker: Herbert J. Buchsbaum, M.D.
Question and Answer Period
"Stump the Professors"
A two-case presentation by the Missouri Section Junior Fellows, Peter Caruso, M.D., Chairman

Sponsored by the Missouri Section of ACOG

OPHTHALMOLOGY

Friday, April 3

9:00 a.m.- *Ninth Annual Midwest Glaucoma Symposium*
4:00 p.m. Current Glaucoma Therapy: Medical, Surgical and Laser
12:00 noon Luncheon
7:00 p.m. MOSI Board of Directors Dinner

Saturday, April 4

9:00 a.m.- *Ninth Annual Midwest Glaucoma Symposium*
12:00 noon Current Glaucoma Therapy: Medical, Surgical and Laser
12:00 noon MOSI Luncheon and Business Meeting
1:00- Presentation of Scientific Papers
4:00 p.m.

Sponsored by the Missouri Ophthalmological Society, Inc.

OTOLARYNGOLOGY

Saturday, April 4

9:00 a.m. Scientific Program: *Recent Otologic Advances*
9:00- "XABC Bone Conducting Hearing Aid Im-
9:30 a.m. plantation: University of Missouri-Columbia Experience"
Speaker: Scott A. Estrem, M.D., University of Missouri-Columbia School of Medicine, Columbia
9:30- "Use of the Laser in Otology"
10:00 a.m. Speaker: Stanley G. Lesinski, M.D., Cincinnati, Ohio
10:30- "Cochlear Implants: An Update"
11:00 a.m. Speaker: Margaret W. Skinner, Ph.D., Director of the Audiological Services, Cochlear Implant Researcher on Cochlear Team, Department of Otolaryngology, Washington University School of Medicine, St. Louis
11:00- "Homograft Tympanoplasty"
11:30 a.m. Speaker: Stanley G. Lesinski, M.D.
Moderator: Scott A. Estrem, M.D.

Sponsored by the Missouri Society of Otolaryngology/Head and Neck Surgery

PATHOLOGY

Friday, April 3

2:00- Scientific Program
4:00 p.m.

Sponsored by the Missouri Society of Pathologists

PEDIATRICS

Friday, April 3

11:30 a.m. Luncheon Meeting
11:30 a.m.- Scientific Program: Torsion of the Testicle
1:30 p.m. "Differential Diagnosis"
Speaker: David L. Simon, M.D., St. Louis
"Emergency Room Treatment and Triage"
Speaker: Timothy Turner, D.O., President, Mo. Chapter, American College of Emergency Physicians, St. Louis
"Ultimate Effects and Follow-up"
Speaker: George Steinhardt, M.D., St. Louis University School of Medicine, St. Louis
"Misunderstandings and Miscommunications: Legal Consequences"
Speaker: Saul Boyarsky, M.D., J.D., Washington University School of Medicine, St. Louis
Moderator: Saul Boyarsky, M.D., J.D.

Sponsored by the Missouri Urological Society; Mo. Chapter, American Academy of Pediatrics, and the Mo. Chapter, American Academy of Emergency Physicians

PHYSICAL MEDICINE AND REHABILITATION

Saturday, April 4

9:00 a.m. Scientific Program
"Cancer Rehabilitation"
Speaker: David D. Hirsh, M.D., Baylor College of Medicine, Houston, Texas
10:30 a.m. "Syringomyelia: Case Report and Review"
Speaker: Dan Sohn, M.D., Resident, and Alexander Lising, M.D., Rusk Rehabilitation Center, University of Missouri-Columbia School of Medicine, Columbia
10:45 a.m. "Management of Spasticity in Head Injury"
Speaker: Jin Kim, M.D., Resident, and Saroj J. Shah, M.D., Rusk Rehabilitation Center,

University of Missouri-Columbia School of Medicine, Columbia

11:10 a.m. "Biofeedback: Application in Rehabilitation Medicine" Speaker: Brenda Guenthner, D.O., Resident and Susan Buckelew, Ph.D., Rusk Rehabilitation Center, University of Missouri-Columbia School of Medicine, Columbia

11:35 a.m. "Comparative Study of Normal and Spastic Muscles in Fatigue"
Speaker: Otakar Machek, M.D., St. Louis

12:00 noon Central Society of Rehabilitation Medicine Luncheon and Business Meeting

Sponsored by the Central Society of Rehabilitation Medicine

PSYCHIATRY

Friday, April 3

1:00-4:00 p.m. Scientific Program
"New Psychotropic Medications and Their Uses"
Speaker: William Potter, M.D., National Institute of Mental Health, Washington, D.C.

6:30 p.m. MPA Cocktails and Dinner

8:00 p.m. "Directions of Missouri Psychiatric Health"
Speaker: C. Keith Schafer, Ed.D., Director, Department of Mental Health, Jefferson City

Sponsored by the Missouri Psychiatric Association

RADIOLOGY

Saturday, April 4

10:30 a.m. MRS Board of Directors Meeting
12:00 noon MRS Board of Directors Luncheon
1:00 p.m. MRS General Membership Meeting
2:00 p.m. Scientific Program
7:00 p.m. MRS Dinner

Sponsored by the Missouri Radiological Society

SURGERY

Friday, April 3

10:45 a.m. Scientific Program
"Evolution of Breast Cancer Surgery"
Speaker: Kent C. Westbrook, M.D., Arkansas Cancer Research Center, Little Rock, Ark.
"Surgical Controversies with the Breast Preservation Treatment of Mammary Carcinoma"
Speaker: Gordon W. Philpott, M.D., Washington University Medical Center, Surgeon-in-Chief at Jewish Hospital, St. Louis
"Breast Cancer"
Speaker: William G. Kraybill, M.D., Ellis Fischel State Cancer Hospital, Columbia
Discussion
Moderator: Michael J. Bukstein, M.D., Hannibal

1:30 p.m. Continuation of Scientific Program
"Surgical Management of Internal Derangement of Temporal Mandibular Joint"
Speaker: John J. Delfino, D.M.D., Chairman, Oral Maxillofacial Division, St. John's Mercy Medical Center, St. Louis
"The Pathophysiology of Acute Renal Failure in the Surgical Patient"
Speaker: Arlo S. Hermreck, M.D., Kansas University Surgery Association, Kansas City, Kansas
"Creative Tax Planning for Physicians"
Speaker: H. Dean Mann, C.P.A. — Managing Partner, Branko J. Marusic, J.D., C.P.A. — Tax Manager, Ernst & Whinney, St. Louis
Discussion
Moderator: Robert S. Hunt, M.D., Cape Girardeau

3:30 p.m. MSSS Annual Business Meeting

6:30 p.m. MSSS Cocktails and Dinner
"Socrates Oaf"
Speaker: James T. Brown, M.D., Springfield

Saturday, April 4

9:30 a.m. Scientific Program
"Segmental Hepatic Resection"
Speaker: Donald L. Kaminski, M.D., St. Louis University Medical Center, St. Louis
"Acute Pancreatitis and Pancreatic Trauma"
Speaker: Joe U. Levi, M.D., University of Miami, Miami, Fla.
Sponsored by Eli Lilly and Company, Indianapolis, Ind.
"Impact of Therapeutic Endoscopy on the General Surgeon"
Speaker: Greg D. Stiegmann, M.D., Chief, Surgical Endoscopy in Laser Surgery, University of Colorado Health Sciences Center, Denver, Colo.
Discussion
Moderator: Edward H. Andres, M.D., St. Joseph

Sponsored by the Missouri State Surgical Society

THORACIC

Friday, April 3

11:00 a.m. *Annual Charles A. Brasher, M.D., Medical Lectureship*
"Rational Use of Pulmonary Functions"
Speaker: Dennis Pyszczynski, M.D., UMKC Medical Center, Kansas City
Moderator: George R. Reisz, M.D., Kansas City

Sponsored by the Missouri Thoracic Society and the American Lung Associations of Eastern and Western Missouri

UROLOGY

Friday, April 3

11:30 a.m.	Luncheon Meeting
11:30 a.m.-1:30 p.m.	Scientific Program: Torsion of the Testicle "Differential Diagnosis" Speaker: David L. Simon, M.D., St. Louis "Emergency Room Treatment and Triage" Speaker: Timothy Turner, D.O., President, Mo. Chapter, American College of Emergency Physicians, St. Louis "Ultimate Effects and Follow-up" Speaker: George Steinhardt, M.D., St. Louis University School of Medicine, St. Louis "Misunderstandings and Miscommunications: Legal Consequences" Speaker: Saul Boyarsky, M.D., J.D., Washington University School of Medicine, St. Louis Moderator: Saul Boyarsky, M.D., J.D.

Sponsored by the Missouri Urological Society; Mo. Chapter, American Academy of Pediatrics and the Mo. Chapter, American College of Emergency Physicians

AFFILIATED PROGRAMS

CANCER

Friday, April 3

2:00-3:30 p.m.	Scientific Program: *Cancer Control Projects and Effect on Incidence and Treatment* "Screening for Melanoma" Speaker: Gary A. Dyer, M.D., St. Joseph "Screening Mammography" Speaker: Charles W. Blackwell, M.D., Ellis Fischel State Cancer Hospital, Columbia "Cancer Control as It Relates to Prostate" Speaker: Herbert Lepor, M.D., Washington University School of Medicine, St. Louis Moderator: Max A. Heeb, M.D., President-Elect, American Cancer Society, Missouri Division, Inc., Sikeston

Sponsored by the American Cancer Society, Missouri Division, Inc.

HEART

Friday, April 3

11:00 a.m.-12:30 p.m.	Scientific Program "Cholesterol Screening in General Practice" Speaker: To be announced

Sponsored by the American Heart Association, Missouri Affiliate, Inc.

WOMEN PHYSICIANS

Saturday, April 4

12:00 noon	AMWA Luncheon

Sponsored by the American Medical Women's Association

ANNUAL EVENTS

AMA Guest Speaker

Jerald R. Schenken, M.D., a pathologist in private practice from Omaha, Neb., was elected to the AMA Board of Trustees in June 1985. He became a member of the Board's Executive Committee in 1986.

Graduated from Tulane University School of Medicine, Dr. Schenken was named Pathologist of the Year by the College of American Pathologists in 1983. He is active on a number of national advisory panels as well as local civic organizations.

Dr. Schenken will address the 129th Annual Convention of the MSMA on current activities of the AMA.

Thursday, April 2

12:00 noon	Metropolitan Medical Society of Greater Kansas City Luncheon
12:00 noon	St. Louis Metropolitan Medical Society Buffet Luncheon
6:30 p.m.	Washington University Medical Alumni Reception

Friday, April 3

7:00 a.m.	MSMA Councilor District Breakfasts Districts 2, 4, 5, 6, 8, 9, and 10
8:30 a.m.	Missouri University Board of Directors Breakfast and Meeting
11:30 a.m.-4:00 p.m.	Editorial Board and Publications Committee Meeting and Luncheon for MISSOURI MEDICINE
12:00 noon	Metropolitan Medical Society of Greater Kansas City Luncheon
12:30 p.m.	Student Delegates Luncheon
12:30 p.m.	Missouri University Medical Alumni Luncheon
2:00 p.m.	St. Louis Metropolitan Medical Society Caucus
2:30 p.m.	Missouri State Medical Foundation Annual Meeting
6:00 p.m.	St. Louis University Medical Alumni Reception
6:30 p.m.	Missouri University Medical Alumni Reception

Saturday, April 4

1:30 p.m.	Missouri Medical Political Action Committee Meeting

SPECIAL EVENTS

Thursday, April 2

5:30 p.m.	Reception honoring MSMA President-Elect Larry G. Piepergerdes, M.D., and MSMA Auxiliary President-Elect, Mrs. John Mitchell
6:30 p.m.	MSMA Auxiliary Benefit Auction for the MSMF and the AMA-ERF

Friday, April 3

9:00 a.m.	Convention General Session *Do Solo and Small Group Practices Have A Chance?* Nationally known experts Dr. Paul Ellwood and Dr. Brant Mittler debate an issue that touches every physician's professional life — corporate health care delivery systems vs. the solo practice of medicine. A question-and-answer session will follow the debate presentations. Don't miss this informative, enlightening debate.

Saturday, April 4

7:30 a.m.	MSMA Auxiliary Public Affairs Breakfast
9:30 a.m.	Discuss the Issues With Your AMA Delegates
6:00 p.m.	Presidential Inauguration
7:00 p.m.	MSMA Reception

HOUSE OF DELEGATES

Thursday, April 2

10:00 a.m.	First Session *Presiding, Arlen D. Winsky, M.D., Springfield, Speaker* *Reports of Committees & Commissions* *Reports of Officers* *President's Message*
1:30 p.m.	Reference Committee Meetings

Friday, April 3

4:00 p.m.	Second Session *Report of the Nominating Committee* *Reports of Reference Committees* *Report of the Council*

Sunday, April 5

7:30 a.m.	Final Session, Breakfast Meeting *Election of Officers* *Report of Election of Councilors* *Reports of Reference Committees* *Installation of Officers* *Appointment of Committee & Commission Members*

Registration of Delegates opens at 8:00 a.m. in the Main Lobby on Thursday, Friday, and Saturday.

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To show you how many hypertensives stayed on INDERAL® LA

(PROPRANOLOL HCl)

after a major nationwide trial...

...we had
to find
just the
right room.

60,073 patients (90%) who started on INDERAL® LA stayed on INDERAL LA.[1*]

Surprising? Not really.

Because most patients on INDERAL LA (propranolol HCl) don't even know it's working.

A recent double-blind, placebo-controlled, crossover study in 138 hypertensive patients[2] revealed that INDERAL LA has a side effects profile unsurpassed by atenolol or metoprolol — which shows how well-tolerated once-daily INDERAL LA can be.

Sole therapy or concomitant therapy? Fifty-nine percent of the time, INDERAL LA stood on its own.

The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were controlled merely with the addition of a diuretic to INDERAL LA.

For the noncompliant patients in your practice, INDERAL LA may well be the answer.

Almost 20,000 of the patients in the nationwide compliance trial were identified as having been noncompliant with their previous antihypertensive therapy. Their physicians reported that 88% showed improved compliance when placed on once-daily INDERAL LA.

Control, comfort, and compliance

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCI) LONG ACTING CAPSULES

Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma

*After a 30-day trial with INDERAL LA, physicians reported that 90% of the patients would remain on INDERAL LA.

The one you know best keeps looking better

Please see next page for brief summary of prescribing information

The one you know best keeps looking better

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

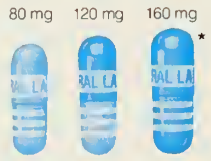
Propranolol is not significantly dialyzable.

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323.

6412/187

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my•o•pia

\mī-ˈō-pē-ə\: deficiency of foresight

SYMPTOMS: Most often observed in professionals who are inundated with day-to-day responsibilities. Dedicated to the needs of others, subject becomes focused on today… at the expense of tomorrow's full potential. May have complicated, expensive retirement plan with scattered investments and sometimes unfocused or nonexistent financial objectives. The lack of sufficient time and professional guidance may result in feelings of anxiety over future well-being of self, family and staff.

DIAGNOSIS: Financial myopia (common to this overworked peer group).

COMPLICATIONS: May not know where to turn for advice that is professional, comprehensive, personalized, flexible, diverse and *painless*.

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CONTRAINDICATIONS: None.

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A WORD TO THE WHYS

WHY AMA?

AMA-sponsored Group Disability insurance is designed to replace a substantial portion of your income should you be unable to practice due to sickness or accident. Unlike many policies, AMA-sponsored Disability Insurance provides benefits if you are unable to perform *your* occupation in *your* medical specialty. Providing you with benefits you can't afford to be without: it's one more good reason why you should be a part of the AMA.

WHY AMA? Now, for the first time there's a forum for hospital medical staffs to meet nationally to discuss common problems and changes in physician-hospital relationships. The Hospital Medical Staff Section was recently created by the AMA to provide leadership in ensuring quality patient care during this period of massive hospital restructuring. It's one more good reason why you should be a part of the AMA.

WHY AMA? Commitment to maintaining high quality at all levels of medical education is one of the AMA's proudest traditions. The AMA creates policy for medical education, participates in accreditation activities, and supplies the public with information on medical education issues. Proven dedication to high standards in medical education: it's one more good reason why you should be a part of the AMA.

To Join, Contact your county or state medical society or write: Division of Membership, AMA, 535 North Dearborn Street, Chicago, Illinois 60610 or call collect, (312) 751-6196.

AMA
AMERICAN MEDICAL ASSOCIATION

Special Article

Denial of Payment for Poor Quality Care

Missouri's PRO Explains Medicare's Latest Requirement

Mohammad N. Akhter, M.D., M.P.H.
Dan Jaco, M.S.P.H.

Dr. Akhter is president and Mr. Jaco is deputy director for the Missouri Patient Care Review Foundation, 311 Ellis Blvd., Jefferson City, MO 65101.

Practicing physicians will soon confront another significant Medicare requirement that many will find difficult to embrace. Though passed by Congress nearly a year ago, many physicians will be surprised and outraged once the new program is implemented later this year.

Section 9403 of the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) authorizes peer review organizations (PROs) to deny Medicare payments where they determine that the care was substandard in quality. The Health Care Financing Administration (HCFA) is now implementing the plan.

PROs presently review medical care provided to Medicare beneficiaries to assure that the care meets professionally-recognized standards. PROs can take corrective action (i.e., education, intensification of review, sanctions) but have not denied payment when the quality did not meet the state's prevailing standard of care. COBRA specifies that the denial of Medicare payment for substandard care may only be made on the basis of criteria consistent with the guidelines established by the Secretary of the Department of Health and Human Services. As usual, the beneficiaries are protected from being charged for the services denied by the PRO.

In this article, we will review briefly the efforts made by the Missouri PRO during 1984-1986 in the areas of quality assurance. Those efforts in relation to the new requirements and the Foundation's experience during the first three months of the new contract will be discussed.

Early in 1985, the Missouri Patient Care Review Foundation Board decided that the organization's primary focus should be on assuring the quality of care rendered to Medicare beneficiaries. Under the DRG Prospective Payment System, there is a potential risk that some patients will not receive quality care, while others will be discharged home prematurely. The Board organized the Quality Assurance/Criteria Committee, chaired by Thomas Frawley, M.D., St. John's Mercy Medical Center, in St. Louis. This committee, in conjunction with various specialty societies of the Missouri State Medical Association, developed criteria for screening medical records. These criteria were used by Foundation staff to screen 203,968 records. The Foundation was one of only three PROs in the country to employ use of generic screens on all cases reviewed. HCFA is now requiring all PROs to use a similar approach. Table 1 lists HCFA's generic screening criteria for use by review coordinators, as required for 1986-88 contracts.

During the first two-year contract, all cases failing the screens were referred to physician advisors who made final determinations of whether the care rendered by the attending physician met the accepted standard of quality of care. Where care did not meet the standard, it was further determined whether the quality issue in question constituted a minor or major problem.

Table 1

HCFA Developed Generic Quality Screens

1. Adequacy of discharge planning
   No documented plan for appropriate follow-up care or discharge planning as necessary, with consideration of physical, emotional, and mental status/needs at the time of discharge.
2. Medical stability of the patient at discharge
   a. B P on day before or day of discharge
      systolic — less than 85 or greater than 180
      diastolic — less than 50 or greater than 110
   b. Temperature on day before or day of discharge greater than 101 degrees oral (rectal 102 degrees)
   c. Pulse less than 50 (or 45 if the patient is on a beta blocker), or greater than 120 within 24 hours of discharge
   d. Abnormal results of diagnostic services which are not addressed or explained in the medical record
   e. IV fluids or drugs on the day of discharge (excludes KVOs, antibiotics, chemotherapy, or total parenteral nutrition)
   f. Purulent or bloody drainage of postoperative wound within 24 hours prior to discharge
3. Deaths
   a. During or following elective surgery
   b. Following return to intensive care unit, coronary care or special care unit within 24 hours of being transferred out
   c. Other unexpected death
4. Nosocomial infections
   a. Temperature increase of more than 2 degrees more than 72 hours from admission
   b. Indication of an infection following an invasive procedure (e.g., suctioning, catheter insertion, tube feedings, surgery, etc.)
5. Unscheduled return to surgery within same admission for same condition as previous surgery or to correct operative problem (exclude "staged" procedures)
6. Trauma suffered in the hospital
   a. Unplanned removal or repair of a normal organ (i.e., removal or repair not addressed in operative consent)
   b. Fall with injury or untoward effect (including but not limited to fracture, dislocation, concussion, laceration, etc.)
   c. Life-threatening complications of anesthesia
   d. Life-threatening transfusion error or reaction
   e. Hospital acquired decubitus ulcer
   f. Care resulting in serious or life-threatening complications, not related to admitting signs and symptoms, including but not limited to the neurological, endocrine, cardiovascular, renal or respiratory body systems (e.g., resulting in dialysis, unplanned transfer to special care unit, lengthened hospital stay)
   g. Major adverse drug reaction or medication error with serious potential for harm or resulting in special measures to correct (e.g., intubation, cardio-pulmonary resuscitation, gastric lavage) including but not limited to the following:
      i. Incorrect antibiotic ordered by the physician (e.g., inconsistent with diagnostic studies or the patient's history of drug allergy)
      ii. No diagnostic studies to confirm which drug is correct to administer (e.g., C & S)
      iii. Serum drug levels not performed as needed
      iv. Diagnostic studies or other measures for side effects not performed as needed (e.g., BUN, creatinine, intake and output)

* PRO reviewer is to record the failure of the screen, but need not refer to physician reviewer.

Based on that determination, the physician advisor assigned a severity level of 1 or 2, and a letter was sent to the attending physician (or hospital if a hospital quality problem) informing of the concern. Table 2 lists the cases reviewed and the severity of the problems identified during the first two-year contract.

Overall, 6.6% of the cases referred were found to have a quality problem. In addition to the letters sent to physicians, thirty-one face-to-face meetings were held where there were serious quality concerns which could not be resolved mutually by written correspondence or phone conversations. For less serious problems, physicians were notified of our concerns and asked to provide better documentation in the future. Many were placed on intensified review, and their records were monitored for at least the next 90 days to determine that they had taken adequate corrective steps to avoid a repeat occurrence of the identified problem. Four physicians whose quality of care was found to be unacceptable were recommended to the Office of Inspector General (OIG) of Health and Human Services for exclusion from the Medicare program. Two of these physicians retired from practice, one physician was sanctioned by the Inspector General, and another one died.

The quality review process was handled in a professional and confidential manner. Despite the aggressive approach taken by the Foundation in the quality assurance program, it nevertheless maintained an excellent working relationship with the Missouri State Medical Association, the Missouri Association of Osteopathic Physicians and Surgeons, and the Missouri Hospital Association. One of the gratifying outcomes of the process has been the reduction in the proportion of identified quality problems which, in turn, should translate into a much less painful transition in Missouri to denial of payment for substandard care.

Data collected during the first three months of the second contract reveal that less than 1% of the cases referred to a physician advisor were found to have a quality problem. While the sample size is considerably smaller than that for the first two-year

Table 2

Cases Reviewed for Quality Concerns
During First Two-Year Contract
1984-86

	Number	*Percent*
Cases referred for which *no* quality problem was identified by physician advisor	48,299	93.4%
Cases referred for which some quality problem was identified by physician advisor	3,412	6.6%
Level 1 (minor) problems	2,587	5.0%
Level 2 (serious) problems	825	1.6%
Total cases referred to physician advisor	51,711	100.0%

Table 3

Cases Reviewed for Quality Concerns
During First Three Months of Second Contract
August-October 1986

	Number	*Percent*
Cases referred for which *no* quality problem was identified by physician advisor	1,140	99.2%
Cases referred for which some quality problem was identified by physician advisor	9	.8%
Level 1 (minor) problems	9	.8%
Level 2 (serious) problems	0	0%
Total cases referred to physician advisor	1,149	100.0%

Table 4

Medical Mishap or Mismanagement
With Significant Adverse Effects on the Patient

Examples of quality problems meeting the conditions for a Level II determination and denial of payment:

(1) A patient has a serious reaction (progressive symptoms of anaphylactic shock) to a drug which is administered even though there is chart documentation that the patient is allergic to the drug.

(2) The physician does not request an antibiotic sensitivity test for a patient with septicemia, the organism is insensitive to the antibiotic administered, and significant harm results (e.g., prolonged hospitalization and complications or death).

(3) A patient who is unstable at discharge is readmitted for the same or related condition for treatment that was not provided during the initial admission.
   (a) A urinary tract infection is discovered in a patient prior to discharge, the patient is discharged without treatment for the infection, and is subsequently readmitted with symptoms of renal complications.
   (b) A patient discharged with a temperature of 101.6 is readmitted as an acute care patient with pneumonia.

(4) Permanent damage results because a cast is applied incorrectly or is not removed timely when the patient's limb swells excessively under the cast.

(5) The physician does not timely monitor the electrolyte balance of a patient with diarrhea, the patient experiences changes in sensorium, falls, and fractures a hip which requires surgery.

Source: HCFA's Draft Quality Transmittal

contract period, the preliminary analysis suggests that there has been a noticeable decline in the incidence of quality problems, both minor and serious in nature. These results also compare favorably with national data. According to Tom Morford, Director of HCFA's Health Standards and Quality Bureau, the range among states in the percentage of confirmed problems is from 0.0 to 24.7%, with an average of 11.8% for September 1986. The Foundation will continue to monitor this trend as more data become available. Given the Foundation's emphasis on quality and continuing educational efforts, it is expected that quality problems will remain below the national average experienced during the first two-year contract.

Under its present two-year contract, the Foundation is required to apply generic screens to every case reviewed for any reason. Cases that fail the screens are then subjected to review by a physician. Approximately 13% of cases are being referred for physician review on the basis of failed screens. After review by a physician, if there is no quality problem, a value of 0 is assigned. If it is a minor quality problem, a value of 1 is given, and a letter is sent to the physician informing him or her of the deficiencies. If the problem is serious, a value of 2 is assigned and in the future, such cases will be denied reimbursement under COBRA. Table 4 outlines the types of cases for which payment to physicians will be denied for substandard care based on a current HCFA draft directive. Because the directive is not expected to become final before this summer and will likely be published for public comment in the *Federal Register*, physicians have an opportunity to voice their concerns to HCFA.

Discussion

The Health Care Financing Administration has already moved into the area of denying payment to physicians for unnecessary admissions, as well as for poor quality of care. Transmittal #10 issued by HCFA, which became effective September 26, 1986, provides for denial of physician payment for selected cases where hospital payment was denied for unnecessary admission to the hospital (Table 5).

Quality review and evaluation have become buzz words in Washington, and HCFA wants to take action to eliminate physicians who provide poor quality

Table 5

PRO Transmittal No. 10
Regarding Denial of Physician Reimbursement
for Medically Unnecessary Services

The Medicare Fiscal Intermediaries for Part B have been instructed to automatically deny payment:

- for surgeon and assistant surgeon physician services associated with a denied surgical procedure
- for *any* denied cost outlier item which has a physician component (e.g., x-rays, EKGs)

For all other PRO denials, carriers must obtain the medical records and review the claim for medical necessity and level of reimbursement. Claims from radiologists, pathologists, and anesthesiologists will not be automatically denied.

Effective date: September 26, 1986

care. In cases where there is serious damage to the patient's well-being, the denial of payment to the physician will be made. But even that likelihood is less a concern than the possibility of denial of payment relating to quality that involves cases for which the care was not clearly substandard. For example, Table 4, which provides examples of cases that HCFA would consider Level II problems, includes quality problems that the Foundation would not necessarily consider to be Level II under the present system. Moreover, the law currently requires that patients be notified of any denial determination by a PRO; cases denied for quality thus raise a significant legal concern.

In addition, the recently passed Omnibus Budget Reconciliation Act of 1986 (OBRA) provides for sharing of information with the state licensing boards, as well as with the national accreditation bodies. Once information is provided to the state licensing boards, they can initiate their own actions, which may ultimately lead to suspension or revocation of a license.

At the same time, the PRO may initiate sanction proceedings and may recommend exclusion of the physician from participation in the Medicare program. Of 80 PRO sanctions recommendations nationally to date, 52 have been approved by the Office of Inspector General — 51 of which have been physicians. Most have involved exclusions from the Medicare program.

In our view, physicians need to be attentive to at least three areas that may affect their ability to practice and survive during these very trying times.

Documentation — First and foremost, the majority of quality problems arise because physicians fail to document adequately in the medical records; subsequently, physicians reviewing the case cannot determine the appropriateness of the actions taken by the attending physician. If there is adequate documentation, considerable unnecessary communication and hardship to both the physician and the PRO could be avoided.

Failure to examine the patient the day of discharge — We see too many cases where the attending physician issues a discharge order the evening before the patient is to go home but then does not see the patient the next day. Many elderly patients with multiple diseases are borderline cases; and if not seen prior to discharge, many times they are sent home while they are still sick. This can result in a readmission within a very short period of time, creating problems for hospitals and physicians and hardship for the patient. Therefore, we best benefit ourselves as well as our patients by physically evaluating them prior to discharge.

The third area is **missing lab tests.** These are cases where blood was drawn or lab work was ordered but never received prior to discharge of the patient. A positive lab test without documentation in the chart and without follow-up of the patient leads to a conclusion of premature discharge. Obtaining and reviewing all the reports prior to sending the patient home would go a long way toward resolving this problem.

Physicians are now responsible for much more than providing the best care possible. They must also be able to manage effectively and appropriately with full knowledge of the pertinent rules and regulations that affect them and their patients. This is no simple task, because the rules are ever-changing. With increasing involvement by government in Medicare and by the private sector in health care, the matter of financing and provision of care has become both paramount and exceedingly complex. Advising your patients appropriately, as well as documenting effectively, requires an investment on each physician's part — at least a half hour a week remaining abreast of the regulatory constraints within which physicians and hospitals must function. The Foundation and its staff are always available to assist in interpretation or understanding of the rules and regulations under which we all must work in the 1980s. ■

Nose Pain and Syncope in a Patient with Coronary Artery Disease

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An unusual case of nose pain and syncope in response to atrioventricular nodal ischemia is presented. Possible explanations for the referral of some cardiac pain to areas outside the sympathetic nervous pathways are discussed.

The mechanisms by which myocardial ischemia induces pain are only partially understood. While typical anterior chest pain is thought to be transmitted along afferent cardiac sympathetic fibers,[1] exactly what constitutes a sufficient stimulus to initiate transmission along these fibers has not been defined, nor have the mechanisms of pain at sites seemingly outside the distribution of the cardiac sympathetic nervous system. Referred cardiac pain to areas about the head has been well described, and the role of vagal fibers in its propagation has been postulated.[2]

We report an unusual case of referred cardiac pain associated with probable ischemia to the atrioventricular (AV) node and manifested as left-sided nose pain and syncope secondary to complete AV block. A mechanism of vagal involvement in this patient's referred pain is suggested.

Case Report

A 51-year-old man had the onset in 1982 of severe left-sided nose pain occurring variably at rest or with exertion. Episodes lasted from seconds to minutes and were typically accompanied by shortness of breath, nausea, diaphoresis, and palpitations. Almost invariably, they would culminate in a self-limited syncopal event. He occasionally would experience left arm pain on exertion, but denied chest pain per se. He had 10 to 12 nose pain/syncope episodes over the ensuing year. He initially came to our institution in June 1983, after an episode of severe left-sided nose and arm pain. Electrocardiographic changes consistent with an acute anterior myocardial infarction had been recorded. After a stormy postinfarction course, coronary angiography and subsequent coronary artery bypass graft surgery were performed, involving the left ventricular branch of the right coronary artery, the lateral branch of the circumflex artery, and the first diagonal branch of the left anterior descending artery, along with a left ventricular aneurysmectomy. The patient did well postoperatively, and he returned to his previous employment as a grave digger. He did fairly well, with only mild, self-limited exertional left arm pain every two to three months, until November 1984, when he experienced severe left-sided nose pain at rest without chest discomfort, followed by a witnessed syncopal event. He was admitted to the intensive care unit of an outlying hospital, where he had several episodes of transient left-sided nose pain unaccompanied by arrhythmia, hypotension, or syncope over the next two hours. He then had an episode accompanied by complete heart block without an obtainable pulse or blood pressure, and cardiopulmonary resuscitation was initiated. After approximately 30 seconds, his heart reverted to a normal sinus rhythm. After insertion of a temporary ventricular pacemaker, he was transferred to our institution.

Physical examination revealed a middle-aged man in no acute distress, with normal vital signs. Physical, neurological, and laboratory examinations, including serial cardiac enzyme analysis, were unremarkable. The ECG showed no acute changes.

Shortly after admission to the coronary care unit he had several episodes of severe left-sided nose pain accompanied by diaphoresis and shortness of breath. The episodes were accompanied by bradycardia and subsequent initiation of temporary pacemaker activity. He did not become hypotensive with these episodes, though he did appear to be in marked distress. The episodes were promptly relieved with administration of sublingual nitroglycerin, and resolution of nose pain was accompanied by a resumption of normal sinus rhythm. He was placed on intravenous nitroglycerin and oral nifedipine therapy, which resulted in resolution of symptoms. Subsequent coronary angiography showed patent grafts, along with significant atherosclerotic lesions in the right coronary artery near the takeoff of the AV nodal artery. Intravenous nitroglycerin was successfully tapered off, and the nifedipine dosage was increased to 30 mg every six hours. The patient was without subsequent nose discomfort or syncope. He was discharged on a regimen of nifedipine, propanolol, aspirin, and dipyridamole after placement of a permanent pacemaker.

Discussion

Unusual sites of referred cardiac pain about the head include the bregma, temple, occiput, mastoid process, brow, tongue, cheek, ear, and tip of the nose.[3] We are not aware of prior reports of myocardial ischemia presenting primarily as left-sided nose pain.

Evidence suggesting that our patient's nose pain represented referred pain during myocardial ischemia includes 1) the prompt relief obtained from sublingual nitroglycerin, 2) the initial resolution of symptoms after coronary artery bypass graft surgery, 3) the temporal relationship of nose pain with complete heart block and syncope, and 4) the successful relief and prophylaxis provided by intravenous nitroglycerin and nifedipine.

The relationship of nose pain and syncope secondary to heart block in our patient probably reflects ischemia of the AV node, most likely due to coronary artery spasm superimposed upon fixed atherosclerotic lesions. The AV node and the bundle of His are supplied by the AV nodal artery, which in turn derives its origin from the right coronary artery in 90% of individuals,[4] including our patient. Right coronary artery spasm in the atherosclerotic area immediately proximal to the AV nodal artery could have compromised this small vessel and the conduction tissue which it supplies. Alternatively, spasm of the AV nodal artery itself could have occurred. Transient AV nodal ischemia by either of these mechanisms could have resulted in the complete heart block and syncope that our patient experienced.

While the patient's syncope could have reflected a vasodepressor effect secondary to pain, this is improbable in light of his remaining normotensive during episodes of pain in which a functioning pacemaker was in place. Ventricular pacing during a vasodepressive episode will not result in a perfusable rhythm until the vasodepressor effect has subsided.[5]

It is interesting to postulate a mechanism of cardiac pain referral to the nose. The conducting system of the heart is richly innervated with both efferent and afferent vagal fibers. The vagus nerve also supplies some afferent innervation to the cranial area through its communication with the facial nerve.[6] Some individuals may have further facial innervation by the vagus, providing a pathway for referred cardiac pain. Atrioventricular nodal ischemia might thus account for the unusual association of nose pain and syncope secondary to complete heart block.

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Diabetic Neuropathic Cachexia and Hypothyroidism in a Woman

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Most cases of diabetic neuropathic cachexia, a rare consequence of non-insulin dependent diabetes, are seen in men. This case is unusual because of the syndrome's occurrence in a woman, and also because primary hypothyroidism was discovered concurrently.

In 1973, Ellenberg first described a syndrome he termed "diabetic neuropathic cachexia."[1] It consisted of anorexia, profound weight loss (up to 60% of premorbid body weight) and painful polyneuropathy. These symptoms were so extreme that the admitting diagnosis was thought to be malignancy with related neuropathy.[1] The diabetes mellitus is typically described as mild.[1, 2] Only one case has been reported in a woman.[3]

We report a case that demonstrates many of the features of the syndrome (Table 1). In addition, an unusual manifestation of hypothyroidism is highlighted.

Case Report

A 42-year-old woman had an abdominal mass, and the recent onset of profound lower extremity weakness and diarrhea. Her medical history was significant for "borderline" diabetes diagnosed several years prior to admission and treated with tolbutamide for an indeterminate period. The medication had been discontinued about one year prior to the current admission. She admitted to weight loss of more than 45 kg in one year. Her serum glucose level, as recorded by her family physician, had remained normal after treatment had been stopped.

On physical examination, she appeared pale, nervous, and cachetic. She cried frequently. Her blood pressure was 112/60 mmHg, pulse 84, and temperature 35.5°C. Background retinopathy and cataracts were noted on the ocular examination. She had a protuberant abdomen with a 20 cm x 10 cm mass. There was 4-5 mm pitting edema in the ankles, extending to the knees. Her neurological examination demonstrated a moderate decrease in proximal muscle strength, no deep tendon reflexes in the lower extremities, and decreased reflexes in the upper extremities. There was no vibratory sensation and marked impairment of pinprick sensation, most evident in the legs.

Her hemoglobin level was 7.2 gm/dl, bicarbonate 12 meq/l, blood urea nitrogen 168 mg/dl, creatinine 16.9 mg/dl, phosphorus 10.8 mg/dl, albumin 2.7 gm/dl, creatine kinase 503 U/l. The rest of the serum electrolyte and automated serum chemistry values were within the normal range. During her hospitalization, her blood glucose was measured in the range of 150-240 mg/dl.

The patient was found to be in acute renal failure due to urinary retention. With Foley catheter drainage and supportive measures, she began to recover, and the abdominal mass disappeared. The endocrinology service was asked to see her because of a question of hypothyroidism. The serum thyroxine (T4) was 3.8 μg/dl (normal range 5.0-13.0 μg/dl) and thyroid stimulating hormone (TSH) level was 46 IU/ml (normal <10.0). She then gave a history of previously diagnosed hypothyroidism, but reported she had discontinued medication on her own some time prior to admission. She was placed on a regimen of l-thyroxine 0.05 mg/day, and was discharged in improved condition, although an indwelling Foley catheter was required. On discharge, her medications were l-thyroxine and an antibiotic.

More extensive evaluation was undertaken on an outpatient basis. Nerve conduction velocities and electromyographic findings were consistent with an advanced peripheral polyneuropathy involving both arms and legs. A cystometrogram indicated decreased sensation of fullness and a post-void residual of over 300 ml. Cystoscopy revealed changes consistent with chronic catheterization.

Her weight and blood glucose measurements over time are shown in Table 2. At her second visit, the l-thyroxine dosage was increased to 0.1 mg.

The patient continues to be observed and is now clinically euthyroid and markedly improved. She is able to walk without assistance, and bladder function is normal. Her renal function has also normalized.

Discussion

Neuropathy is a common complication of diabetes. It may be classified by anatomic location and involvement of somatic or autonomic nerves. Table 3 outlines a simplified classification of diabetic neuropathy. The most common form of diabetic neuropathy is peripheral symmetrical polyneuropathy, in which some of the nerves are diffusely involved. In this form of neuropathy, the distal sites are most severely involved, causing a loss of function that appears in a "stocking-glove" distribution. Both sensory and motor components of the somatic nervous system are involved; however, the predominant involvement usually occurs with the sensory nervous system.

Table 1

Features of Diabetic Neuropathic Cachexia

1. Anorexia, weight loss of up to 60%.
2. Recently diagnosed diabetes.
3. Predominantly affecting men.
4. Middle age.
5. Depression and emotional lability.
6. Painful polyneuropathy.
7. Impotence.
8. Absence of retinopathy or nephropathy.
9. Recovery in about one year.

Other forms of diabetic peripheral neuropathy can be classified as asymmetrical focal and multi-focal neuropathy. This kind of neuropathy may present itself as a cranial nerve palsy, mononeuritis, radiculopathy or amyotrophy. As outlined in Table 3, in diabetic patients autonomic neuropathy constitutes a separate form of neuropathy. Although autonomic neuropathy frequently occurs when a patient already has peripheral neuropathy, an isolated autonomic neuropathic syndrome may occur in a diabetic patient.

It is not uncommon to detect the presence of neuropathy at the time of the diagnosis of diabetes. Pirart found that 12% of diabetic patients already had clinically detectable neuropathy at the time of diagnosis.[4] In addition, he observed that 50% of the diabetic patients had evidence of neuropathy after 25 years of the disease. Although the exact pathophysiological mechanisms are not completely identified, it appears that the interaction of a variety of metabolic, genetic, and environmental factors may participate in the genesis of diabetic neuropathy. It has been hypothesized that chronic hyperglycemia plays an important role in the pathogenesis of diabetic neuropathy. In recent years it has been shown that in some diabetic patients, subclinical nerve dysfunction has been alleviated by improved glycemic control.[5]

Diabetic neuropathic cachexia was described as a form of peripheral neuropathy by Ellenberg.[1] The description was supported by the finding of peripheral neuropathy with predominant muscle and sensory involvement without indications of autonomic neu-

Table 2

Parameters of Diabetic Control and Thyroid Function in This Patient

Date	Weight (kgs)	Glucose mg/dl (70-110)*	Glycohemoglobin (%) (4.4-6.1)*	Thyroxine μg/dl (5.0-13.0)*	TSH μ-IU/ml (<10.0)*
12/—/84	46.0			<3.0	45
01/14/85	48.9	180			
02/08/85	48.0	146	7.7%		
03/14/85	47.0	167		11.2	
05/03/85	49.5	128			
08/06/85	49.5	112	3.5%	7.9	
08/19/85	50.0				

*Normal range

Table 3

Classification of Diabetic Neuropathy

- I. Peripheral (Somatic) Symmetrical Polyneuropathy
  - A. Sensory
  - B. Motor
  - C. Mixed
  - D. Diabetic Neuropathic Cachexia (DNC)
- II. Asymmetrical Focal and Multifocal Neuropathy
  - A. Cranial nerves
  - B. Mononeuritis or mononeuritis multiplex
  - C. Radiculopathy
  - D. Plexopathy (amyotrophy)
- III. Autonomic Neuropathy
  - A. Gastrointestinal
  - B. Genitourinary
  - C. Cardiovascular
  - D. Anhidrosis
  - E. Counter-regulatory

ropathy. Motor nerve conduction velocity studies and electromyographic studies were consistent with a peripheral polyneuropathy. In Ellenberg's cases, biopsies of muscle and nerves showed neurogenic atrophy in the muscle, fewer axonal fibers, angulated fibers, band condensation, and other features of nerve damage, but blood vessels were normal.[2] One of the most striking features of these patients was their spontaneous recovery from all but a distal sensory "stocking-glove neuropathy." This recovery phase is typical of some of the asymmetrical diabetic neuropathies. Because of the time, course and resolution, Ellenberg also believed that the emotional disturbances are a primary part of the neuropathy, not a reaction to it. It is not known why there is a predominance of men affected. Our patient also fits many of the characteristics of diabetic neuropathic cachexia, including the duration of the illness and spontaneous recovery. She had a profound bilateral peripheral neuropathy and displayed emotional disturbances and anorexia, all characteristic of this syndrome. However, she also had background retinopathy, urinary retention suggestive of autonomic neuropathy, and coexisting hypothyroidism. Association of these manifestations with neuropathic cachexia has not been reported before.

The cause of the atonic bladder and urinary retention in our patient is not clear. The presence of diabetes with profound peripheral neuropathy suggested the presence of autonomic neuropathy involving the bladder. However, she lacked other compatible findings of autonomic neuropathy. Furthermore, the patient eventually improved and the problem of urinary retention was resolved. The possibility of severe myxedema having caused an atonic bladder cannot be ruled out. Only a few cases of bladder atony and urinary retention have been reported in patients with hypothyroidism. In 1932, Evans reported a case of severe myxedema complicated by an atonic bladder in a middle-aged woman.[6] Escamilla in 1935[7] and Edwards in 1965[8] also reported cases of urinary retention in myxedema. In none of these patients could another disease process except hypothyroidism be implicated as the cause. The fact that bladder atony improved as our patient became euthyroid suggests that myxedema may have played an important etiological role.

The original cases described by Ellenberg described a syndrome in which the predominant manifestations were weight loss and painful neuropathy. Since the original description, several other cases have been reported which fit the syndrome. These included one female patient. Our patient differs from the majority by being a woman, by the lack of pain, and the presence of retinopathy. The spectrum of this syndrome may be broader than initially defined. The presence of neuropathy, and in this case retinopathy, are consistent with diabetes of much longer duration than the time of diagnosis would suggest.

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Congenital Dislocation of the Hip

Detection and Management

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Congenital dislocation of the hip is a spectrum of abnormalities which, left untreated, can lead to premature osteoarthritis. The condition is readily detected and easily corrected in the infant. Knowledge of risk factors and proper examination technique can eliminate the need for surgery in most children affected.

Congenital dislocation of the hip (CDH) is a spectrum of conditions secondary to intrauterine laxity of the hip joint capsule (ligaments), and characterized by abnormal growth and development of the femoral head, acetabulum and surrounding soft tissues. Prompt recognition and treatment of these conditions can prevent premature degenerative arthritis.

The spectrum of abnormality seen in CDH includes:

1. *Acetabular dysplasia* — in which the acetabulum may be reduced in capacity, and the slope of its roof, the acetabular index, is more vertical than normal.
2. *Subluxation* of the hip joint — in which the femoral head lies superior and lateral to its normal concentrically reduced position.
3. *Complete dislocation* of the joint.

Three reasons exist for hip joint dislocation in infancy and childhood. The first is the "typical" dislocation, which accounts for 98% of cases.[1] Only this type is referred to as "congenital dislocation of the hip." Here, the subluxation develops during the last trimester of pregnancy because of adduction of the fetal leg and stretching of the hip ligaments as intrauterine forces increase.[2] This type of CDH has a very favorable prognosis and can almost always be managed non-operatively if the condition is detected early and managed appropriately.

The second category is the teratologic dislocation. In this extremely rare condition, the dislocation occurs during the first trimester of pregnancy, and the hip derangements are, therefore, more striking. Treatment is almost always operative, since the dislocation is irreducible at birth.

The third etiologic category is the paralytic dislocation. Here, distortion of the normal agonist-antagonist muscle balance about the hip creates a completely different mechanism for the hip disturbance.

Since teratologic and paralytic dislocations account for an extremely small percentage of cases, this paper will address only "typical" CDH — the type due to ligamentous laxity.

Incidence

The incidence of CDH has been reported in England as 1.5 in 1000 live births,[3] in Sweden as 1.7/1000,[4] and in North America as 1 to 1.5/1000.[5] Its incidence has been found to vary in different geographic regions and among different cultural groups. For instance, it is much more common in the population of northern Italy,[6] in the Japanese, in Canadian Eskimos,[7] and in some American Indian tribes,[8] while it is rare among the Chinese[7] and the African Bantu.[9]

Barlow described "dislocatability" of the infant hip joint and pointed out its relative frequency. He detected hip instability in 1.5% of newborns by his "provocative" test and noted that most of these children's hips became stable by 1 or 2 months of age.[3]

The incidence of unstable hips (dislocatable or dislocated) has been reported as 13.3/1000, or one in 75, in a prospective study of over 23,000 newborns by Artz et al.[10]

Females account for 80% to 90% of patients with CDH.[11, 12] Twenty-two percent of infants in breech presentation have been reported to have CDH,[13] a relationship that has been widely recognized.

The left hip is involved twice as often as the right. This is believed to result from the pressure of the mother's spine on the fetus' posterior leg, causing adduction of the hip.[1] Firstborn infants have a higher incidence of CDH. This is thought to be due to tightness of the mother's abdominal muscles and restriction of the fetus' freedom of movement.[1] The association of oligohydramnios with CDH may arise from a similar mechanism.[14] Infants with torticollis or metatarsus varus are frequently found to have CDH.[2] The incidence of CDH in black infants is less than in Caucasians.[15, 16]

Pathology

At birth, the significant pathologic findings of CDH are abnormal laxity of the joint capsule and elongation of the ligamentum teres.[6] The acetabulum and femoral head are nearly normal in shape.

If the condition is not treated, further changes occur (Fig 1). The capsule becomes more elongated, and an area of constriction develops where the iliopsoas tendon crosses the capsule, producing the so-called "hour glass constriction." Fibrofatty tissue in the base of the acetabulum ("pulvinar") will fill the inferior acetabulum when dislocation persists. This reduces the capacity of the acetabulum and may impede reduction.[17]

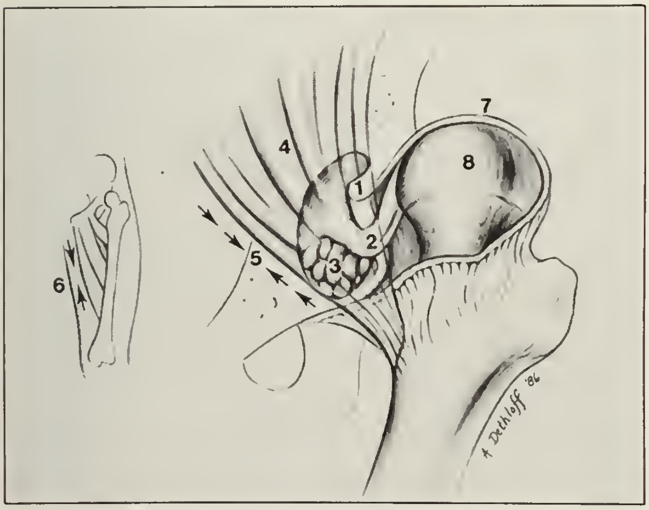

Fig 1. Anatomic alterations surrounding a congenitally dislocated hip include: 1) inversion of the acetabular labrum, 2) hypertrophy, stretching, and elongation of the ligamentum teres, 3) deposition of fat (pulvinar) within the inferior half of the acetabulum, 4) dysplastic development of the normal bony structure surrounding the acetabulum, 5) contracture of the iliopsoas muscle, creating a primary obstruction to reduction of the femoral head into the acetabulum, 6) contracture of the adductor muscles, impeding reduction of the femoral head, 7) stretching of the hip joint capsule, and 8) asymmetric development of the femoral head, producing an olive-shaped femoral head.

The limbus (labrum) is a cartilaginous structure attached to the acetabular rim. It serves to deepen the acetabulum[18] and enhance containment of the femoral head. With subluxation, the limbus is pushed upward or everted by the femoral head. With complete dislocation, the labrum lies below the head[18] in an inverted position. In that position, it can provide an obstacle to reduction.

When the dislocation has been present for two months, contracture of the adductor muscles[3] is always present. In the presence of dislocation, skeletal length of the thigh is effectively shortened and the adductor muscles are not maintained at proper length; therefore, they shorten. This limits abduction of the hip during clinical examination.

In the child over eighteen months, bony deformity develops. The development of depth and roundness of the acetabulum depends principally on the presence of a normally shaped and concentrically reduced femoral head. As the dislocation persists, not only will the true acetabulum develop poorly, but a secondary (false) acetabulum may develop in a superior and posterior position on the ilium (Fig 1). Femoral anteversion of up to 90° and coxa valga may develop (Fig 2), which may require, in addition to open reduction, femoral osteotomy to achieve concentric reduction of the hip in the weight-bearing posture.

Clinical Presentation

In the newborn, the diagnosis of CDH is best made using the Ortolani and Barlow tests. These tests

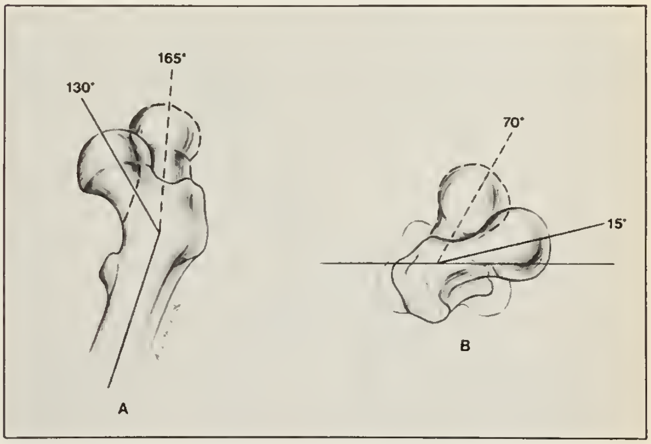

Fig 2. Adaptive changes in the development of the upper femur which occur because of abnormal growth due to the lack of reduction of the femoral head in the acetabulum include: a) coxa valga (an increased neck-shaft angle of the upper end of the femur) and, b) femoral anteversion (an abnormal forward tilting of the neck of the femur). If these anatomic alterations are established at the time CDH is treated, both may need to be addressed in order to achieve concentric reduction. Correction is achieved by varus derotational osteotomy. (Fig 10)

can be done in less than a minute and should be a part of every neonatal examination. Periodic recheck examinations during infancy are also appropriate.

Ortolani's test was first described in 1936.[19] The test is performed with the baby in the supine position (Fig 3). It is essential that the test be carried out when the baby is relaxed and content. If the mother is present, she can support the baby across her lap. Each hip is tested separately. The hip and knee are flexed 90°, with the examiner's index and middle finger placed over the greater trochanter and the thumb over the medial aspect of the thigh. As the baby's thigh is gently abducted, the examiner's index and middle finger press on the greater trochanter. If the femoral head began in the dislocated position, it will reduce into the acetabulum. The term "click" has often been used to describe the reduction of the femoral head during Ortolani's test. The term "click" is unfortunate, since clicks are commonplace during this examination and are of no significance.[20] "Clicks" in a neonatal extremity can be caused by snapping of a tight iliotibial band or the gluteal tendons over the greater trochanter or, in the knee, a subluxating patella or discoid lateral meniscus.[17] Rather than a "click," the reduction of a dislocated hip is attended by an impressive and obvious movement of the dislocated femoral head back into the acetabulum that may be palpated. The movement may feel like a "clunk," but there is almost never an audible component. It should be noted that the test is not useful after the baby reaches 2 to 3 months of age since the hip will be fixed in the dislocated position by that time.

The second useful test of the infant's hip was described by Barlow in 1962, and the test bears his name (Fig 4). The important part of Barlow's work was his description of a provocative test to detect hip instability.[3] With the infant supine, the thigh is grasped and the femur flexed 90° and adducted, then gently pushed posteriorly. If the femoral head is felt to slip out over the posterior lip of the acetabulum and back again immediately when the pressure is released, the hip is said to be dislocatable.[3]

During the Barlow maneuver, the examiner may feel the femoral head ride up on the edge of the acetabulum posteriorly but not out of the acetabulum. This type of hip is defined as subluxable,[21] and most of these "tighten up" during subsequent observation.

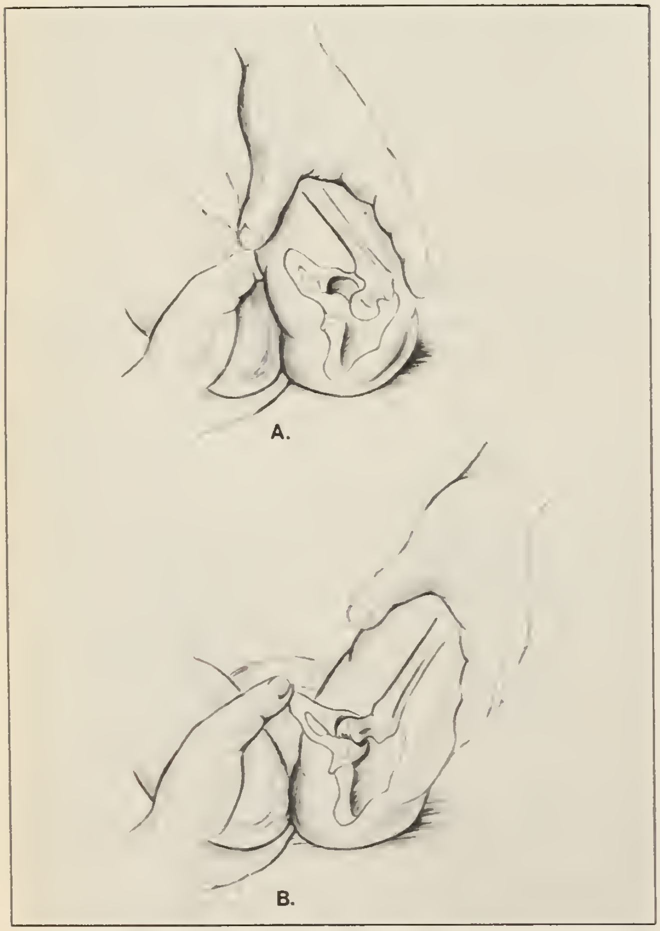

Fig 3. The Ortolani test is performed as shown. With the baby relaxed and the pelvis supported by the left hand, the extremity is brought from an adducted position into an abducted position and the femoral head moved from a position of dislocation into apposition with the acetabulum, producing a palpable feeling of reduction.

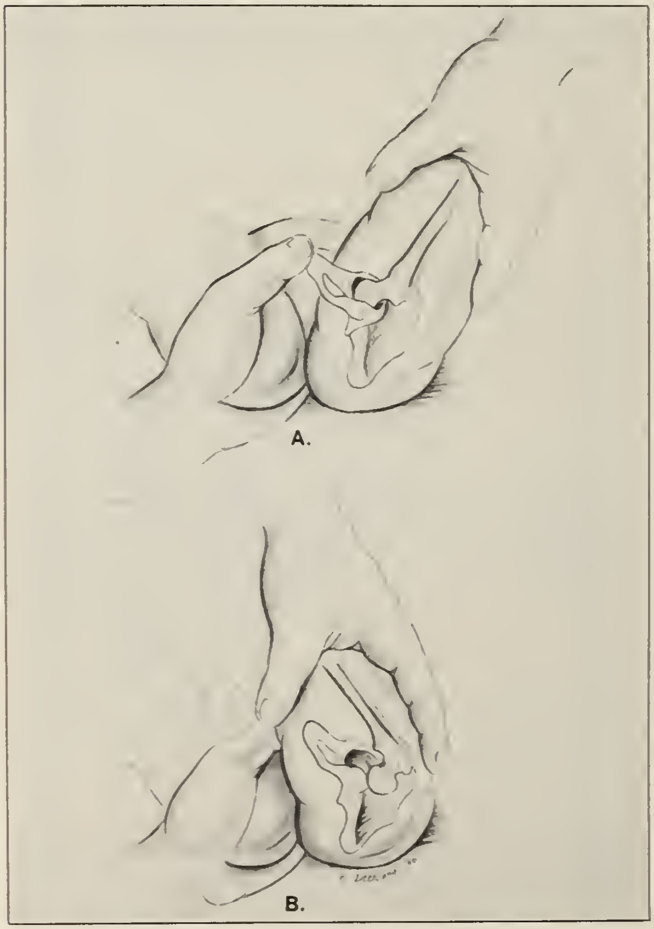

Fig 4. Barlow's test uses maneuvers exactly opposite the Ortolani test. With the baby quiet and the pelvis supported by the left hand, the involved extremity is brought from a position of abduction into a position of adduction. Slight posterior pressure produces dislocation of the hip which produces a visible "clunk" and *feeling* of dislocation.

It cannot be overemphasized that the infant must be quiet and relaxed when Ortolani's or Barlow's tests are performed. Otherwise, the examinations are unreliable. Barlow reported two occasions during the examination of a dislocated hip when the baby started to cry. At the moment the muscles contracted to produce the expulsive effort, he felt the hip reduce spontaneously.[3] Barlow's and Ortolani's tests have been shown to be reliably reproducible, under proper conditions, with a high degree of inter-examiner agreement.[22]

Galeazzi's or Allis' sign is elicited with the infant supine. The examiner flexes the child's knees and hips by placing the infant's feet flat on the examining table near the buttocks. If a dislocation is present, the knee of the affected side will be lower.[21]

When dislocation has been present for two months or longer, contracture of the adductor muscles will cause a limitation of abduction of the hip. Adductor contracture does not appear in the neonate, since the length-tension relationship of the muscles in utero is normal.

Asymmetrical skin folds in the gluteal and thigh regions are not reliable indicators of a dislocation. In Barlow's series of more than 9,000 newborns, far fewer than half of the infants with dislocated hips had asymmetrical skin folds, and the great majority of children with asymmetrical skin folds were found to be normal.[3] However, persistent or marked asymmetry should lead to further careful evaluation.

The child of walking age with a dislocated hip will show a short leg and a limp due both to shortening of the leg and to weakening of the hip musculature (Trendelenburg's limp). The Trendelenburg test is also positive because of the effective weakening of the glutei muscles. When the child stands on the dislocated side, the pelvis drops on the opposite side.

The infant with bilateral dislocation is difficult to diagnose. A significant percentage of children presenting for treatment after 18 months of age have bilateral involvement.[23]

In these older children, the symmetrically limited abduction and range of motion tends to mask the problem. The perineum will be widened and the greater trochanters will be prominent. When the child begins to walk, a "ducklike waddle" or "sailor's gait" will be noted due to the effective weakening of the glutei and hip extensors. Also, when walking age is reached, hyperlordosis of the lumbar spine will develop due to the femoral head articulating on the posterior, superior iliac wing, thus shifting the center of gravity of the trunk anteriorly and tilting the pelvis forward.

High Risk Groups

The examining physician should maintain a high degree of suspicion for CDH, particularly when dealing with infants in high-risk groups. Risk factors include 1) a family history of CDH, 2) breech vaginal delivery, 3) breech presentation at Caesarean section, 4) a female infant with a deformity of the lower limbs (metatarsus varus, talipes equinovarus, or congenital vertical talus), 5) significant persistent asymmetry of the thigh folds, 6) excessive laxity of the joint ligaments, 7) torticollis or other significant musculoskeletal deformity, or 8) a child of American Indian, Japanese, or northern Italian ancestry.[2]

Role of X-Rays

The use of x-rays in the diagnosis of CDH in infants has been a subject of disagreement. The controversy exists primarily because of the difficulty in interpreting x-rays of a newborn's hips. Some feel the interpretation confuses the diagnosis.[10] Interpretation is difficult because neither the proximal femur nor the acetabulum is well ossified until 2 to 3 years of age.[24] Often, an infant's hips are reported as normal on x-ray, when the hip is actually clinically dislocated; conversely, it may be reported as abnormal when there is no abnormality clinically.[25]

Despite the lack of bony definition, valuable information can be obtained from an x-ray of the neonate's hip. Films exclude other malformations such as proximal femoral focal deficiency, can provide information about the general shape of the acetabulum,[24] and can be used to evaluate reduction after an abduction splint has been applied.[24] Crawford believes one should never fail to obtain an x-ray after an abduction device has been applied.[26]

The x-ray view described by Von Rosen (Fig 5) is most helpful in determining hip position. It is an anteroposterior view of the pelvis, taken with the hips abducted 45°, fully extended and fully internally rotated. When the head is reduced, the long axis of the femoral shaft points toward the lateral margin of the acetabulum. When dislocated, the axis of the shaft points toward the anterior superior iliac spine.[16]

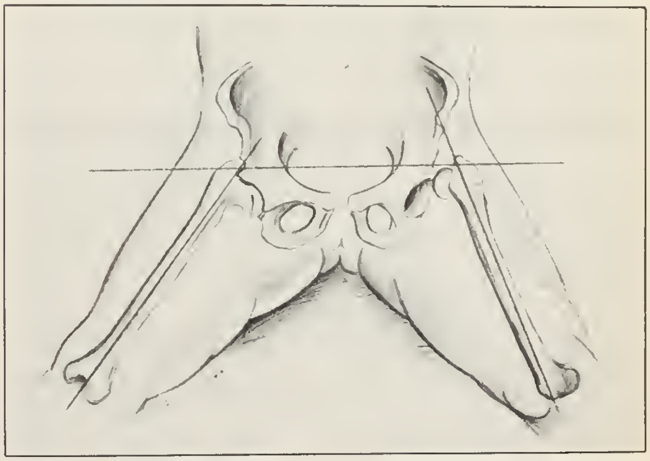

Fig 5. X-rays are confirmatory in making the diagnosis of congenital hip dislocation, although a careful clinical examination is far more important. The most helpful view is the von Rosen view. With a dislocated hip, the line drawn up the femoral shaft points high on the ilium rather than toward the normal bony acetabulum. Interpretation of the x-rays is difficult because of the lack of definition of bony anatomy around the infant hip joint.

While there is benefit from obtaining an x-ray of the suspected hip, we feel that a very careful clinical examination of a quiet baby provides a dynamic assessment of the stability of an infant's hip, which is of much greater value than any plain radiograph.

When the bony contours of the femur and acetabulum become better defined (at age 12 to 24 months), x-rays become more pertinent in the diagnosis and management of CDH. Disturbances of the growth and development of the bony contours brought on by the lack of reciprocal growth stimulation are easier to recognize after 18 months of age.

The x-ray must be evaluated carefully, using several reference lines. Hilgenreiner's horizontal line is drawn across the triradiate cartilages. A line is then drawn along the acetabular roof on each side. The angle that these two lines subtend is the acetabular index. The normal angle is less than 30°.[26]

Perkins' vertical line is drawn perpendicular to Hilgenreiner's line through the anterior inferior iliac spine on each side. Four quadrants are defined on each side by these two lines. Normally, the proximal medial metaphysis, or femoral ossification center of the femoral head should lie in the inner lower quadrant.

"While there is benefit from obtaining an x-ray of the suspected hip, we feel that a very careful clinical examination of a quiet baby provides a dynamic assessment of the stability of an infant's hip, which is of much greater value than any plain radiograph."

Shenton's curved line is projected under the medial border of the neck of the femur and the superior border of the obturator foramen. In the dislocated hip, this normally even, continuous arc will be interrupted.[23]

The C-E angle, as defined by Wiberg, can be used to determine the degree of lateral subluxation of the femoral head. It is measured by constructing a line from the center of the femoral head to the lateral edge of the acetabulum and then measuring the angle it forms with a vertical line running through the center of the head.[27] Twenty degrees is thought to be normal, 15° to 19° equivocal, and less than 15° pathologic.[28]

When there is uncertainty about the stability of a child's hip, arthrography is valuable in making the determination. With the child sedated or anesthetized, a few milliliters of diluted contrast material are introduced into the joint. The hip is then visualized with the image intensifier while it is put through a range of motion. Questions regarding reduction or stability of the joint can often be answered in this way. A computed tomographic or magnetic resonance image of the hip may also be useful in this situation, though one is not able to observe the dynamics of hip motion with these methods.

Treatment of CDH

The goal of treatment is to obtain a normal hip both clinically and radiologically. The treatment of CDH is entirely dependent upon the age of the infant or child. As adaptive changes occur about the hip, treatment becomes increasingly difficult.

If the diagnosis is made before the infant is 1 month old, and if complete concentric reduction of displacement can be obtained and adequately maintained without vascular damage to the femoral capital epiphysis, consistently excellent results can be achieved.[6]

Birth to 6 Months

In this age group treatment consists of obtaining and maintaining reduction in a flexed, gently abducted position for a period of weeks or months. The maximum abduction internal rotation or "frog" position of immobilization has been shown to lead to a high incidence of avascular necrosis and should be avoided.[29] Several devices are currently available to maintain the flexed and abducted position. The Von Rosen and the Craig or Ilfeld rigid splints and the flexible Frejka apron and Pavlik harness have all been shown to produce satisfactory results in the newborn with CDH.[1, 2, 10, 16, 30, 31] The rigid splints are recommended by Coleman for the extremely unstable hips, those that can be easily dislocated and reduced. With the use of rigid devices, however, there is the danger of introducing forced abduction, which may place too much pressure across the hip joint and lead to avascular necrosis.[2, 29]

We have successfully used the Pavlik harness for the past eight years to manage most typical dislocations in the newborn. The device has been shown to be practical and effective in infants under 6 months of age.[30, 31] The harness consists of an adjustable abdominal band with shoulder straps that cross posteriorly, foot cuffs, and leg straps with velcro closures.

Reduction need not be obtained prior to application of the harness since the reduction may take a week or more to occur. The thighs are brought into flexion, but not forced flexion, and abduction is allowed to occur, but is not forced.

To guard against forced abduction and subsequent vascular compromise of the femoral head, the leg straps are left loose enough for the knees to come within 3 cm to 5 cm of the midline.[31] The weight of the legs falling into abduction gradually stretches any adduction contracture present. Reduction occurs as abduction increases with the hip flexed, and the femoral head rides over the posterior margin of the acetabulum.

This therapy can often be done on an outpatient basis, with weekly rechecks until reduction and stability are assured. Recheck x-rays should be reviewed for continued reduction, improvements in the acetabular index, and normalization of the C-E angle.

The length of treatment will depend upon the age of the child when treatment is begun. The abduction splint is left in place full-time until three criteria are met. These are the presence of: 1) normal stability upon clinical examination, 2) full range of motion of the hip, and 3) marked improvement on x-ray studies. Once these conditions are present, splinting can be reduced to nighttime and naptime application, to be continued until x-rays become completely normal.

This method of management is effective in the majority of cases, but when it fails, operative intervention as described in the next section may be needed.

Six to 18 Months

By six to 18 months, if the dislocation is untreated, muscle contractures will have developed, the ligamentum teres will have lengthened and broadened and fat (pulvinar) will fill the inferior part of the acetabulum. Removal of fat and ligamentum teres, release of tight adductor and iliopsoas muscles, open replacement of the femoral head into the acetabular cavity and capsulorraphy constitute the essential parts of surgical repair of the dislocation. The adductor and psoas muscles need to be lengthened to allow the femoral head to be brought inferiorly toward the acetabulum from its proximal position on the ilium.

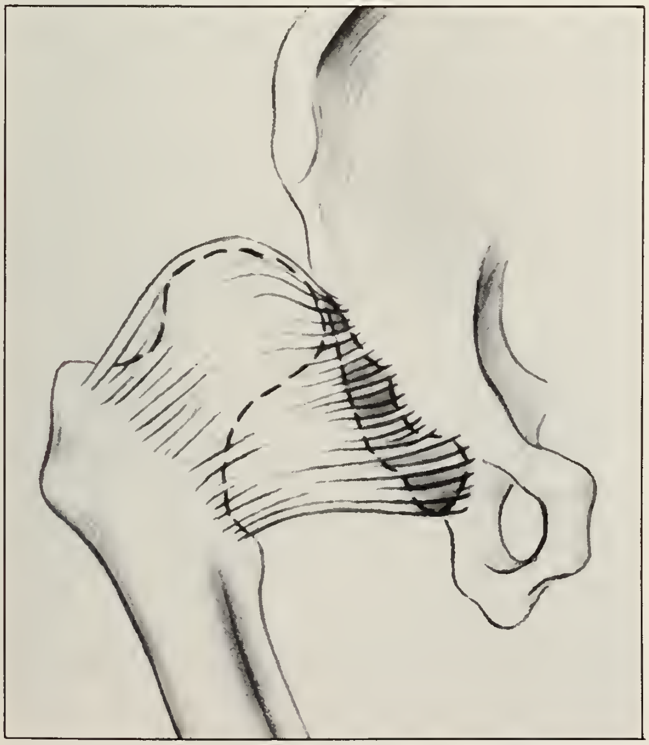

Fig 6. In the 6- to 18-month-old child, open reduction of the hip joint includes gentle muscle lengthening, an open capsulotomy of the joint, removal of obstacles to reduction, and capsulorrhaphy.

Releasing these muscles also reduces the chances for compression of the medial femoral circumflex artery as it passes between the iliopsoas and the abductors and between the iliopsoas and the acetabular rim.[23, 32, 33]

During open reduction, the blocking effect of the limbus must be overcome, and the elongated, lax capsule must be carefully imbricated and repaired. Bony osteotomies of the femur or acetabulum are almost never necessary in this age group.[34]

After concentric reduction is achieved, remodeling of the acetabulum and femur can be expected and most children will need no further surgery (Figs 6-8).

Eighteen Months and Older

The child over 18 months with a dislocated hip has established bony deformity in the upper femur and acetabulum. Anteversion of the femoral head and neck, and valgus of the neck shaft angle, will be present. The acetabulum will be shallow and dysplastic with a high acetabular index. Children who have had open reduction, but whose C-E angle or acetabular index fails to progress over a one or two year period, are also candidates for additional surgery.[35]

Operative treatment of this age child includes surgery to achieve concentric reduction with capsular plication and repair, as well as surgery to repair the bony changes, which are not likely to resolve spontaneously after successful open reduction.

Debate has continued on how much bony deformity should be addressed at the time of open reduction in a child over 18 months of age. Salter[36] and Pemberton[37] felt that the potential for acetabular re-

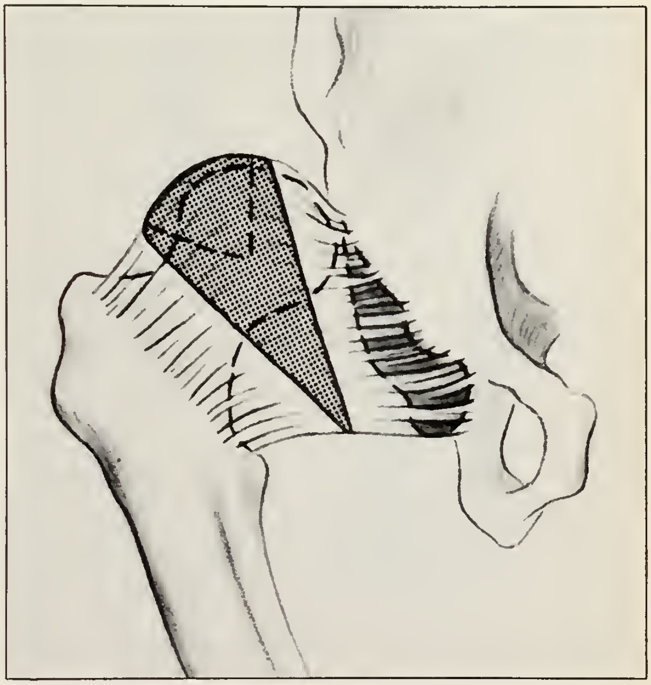

Fig 7. Wedge resection of the redundant capsule includes removal of anterior and superior segments of capsule, in addition to acetabular debridement.

modeling after 18 months of age was limited. They recommended acetabular osteotomy or pelvic osteotomy at the time of open reduction in a child older than 18 months of age (Fig 9).

Harris, however, has shown that the acetabulum can remodel successfully up to the age of 8 years after a successful open reduction and capsulorrhaphy and, therefore, suggested no acetabular or femoral surgery be performed so long as open reduction was accomplished by the age of 4½ years.[38]

Osteotomy of the femur (varus derotation osteotomy) can also help redirect the femoral head into the acetabulum and stimulate acetabular remodeling (Fig 10). The recent series by Kasser showed the technique is quite effective, so long as avascular necrosis is not present and pre-operative x-rays of the hip taken in abduction and internal rotation show concentric seating of the femoral head.[35] In patients over 3 years of age with complete dislocations and severe proximal subluxation, femoral shortening also has been used by a number of surgeons to correct both soft tissue shortening and deformity in the upper femur. The technique's use should be considered over the use of preoperative skeletal traction.[39]

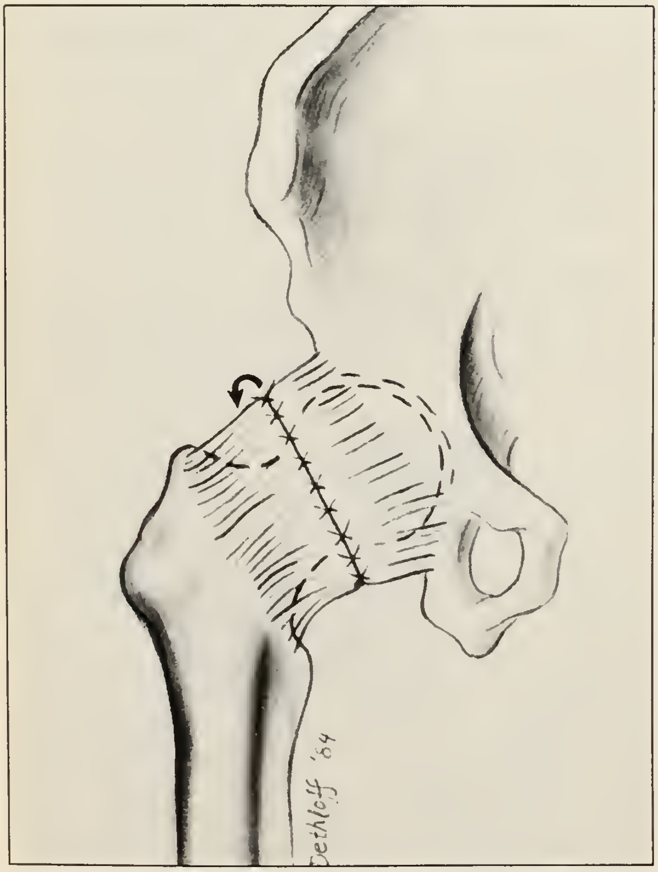

Fig 8. Once the redundant capsule is removed, capsulorrhaphy can be accomplished and the femoral head sutured gently, but securely, within the acetabulum like a herniorrhaphy.

The decision to perform pelvic or femoral osteotomies, or both, is one that must be made on an individual basis. The decision depends on the surgeon's prior experience as well as the amount of bony deformity that exists at the time of open reduction.

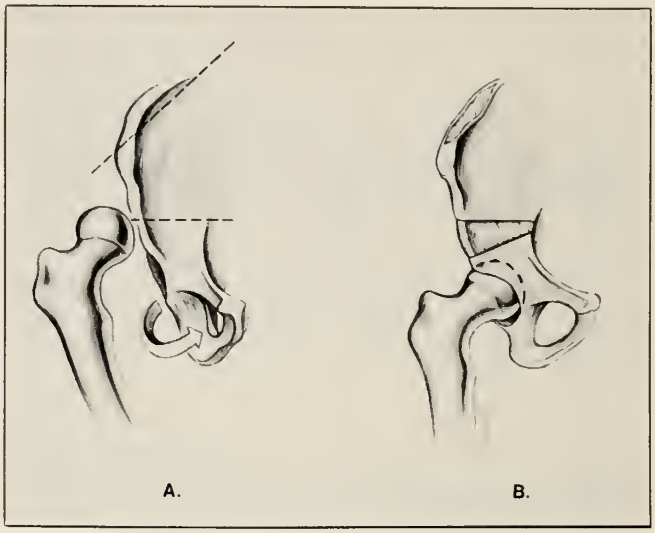

Fig 9. In children over 18 months, bony adaptational changes may need to be addressed simultaneously with open reduction and capsulorrhaphy. The Salter osteotomy of the innominate bone is the most commonly used procedure to redirect the acetabulum. It is an opening wedge osteotomy above the acetabulum which redirects the acetabulum to improve acetabular coverage of the femoral head.

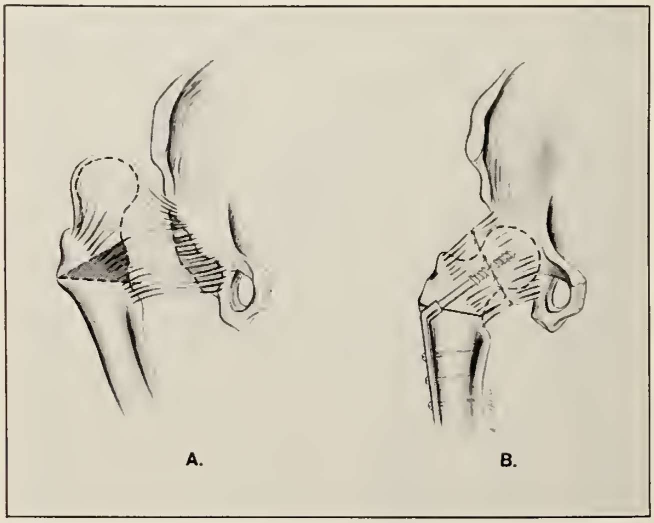

Fig 10. If coxa valga and femoral anteversion are severe by the time treatment is provided, both can be addressed simultaneously during open reduction and capsulorrhaphy.

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Medical School News

Washington University

■ The Kilo Diabetes & Vascular Research Foundation has endowed a pathology lectureship at Washington University School of Medicine in honor of internationally recognized diabetes researcher **Paul E. Lacy, M.D., Ph.D.**

The Lacy Lectureship will be delivered annually by a Kilo Scholar. The series will begin March 25 with an address by **George E. Palade, Ph.D.**, professor of cell biology at Yale University School of Medicine. Palade's topic is "Control of Proteins and Membrane Traffic in Eukaryotic Cells."

The lecture series is named for Lacy in honor of his many contributions to pathology and diabetes research, and to recognize his collaboration over the years with the co-founders of the Kilo Foundation. Diabetologist **Charles Kilo, M.D.**, and pathologist **Joseph Williamson, M.D.**, received their medical degrees at Washington University in the late 1950s. Both men trained under Lacy, who introduced them and suggested they become partners in diabetes research.

Their collaboration led in 1972 to the creation of the Kilo Foundation, which supports research on diabetic and arteriosclerotic vascular disease. One of the foundation's most important achievements has been proving the necessity of normalizing blood sugar levels in diabetics.

The Kilo Foundation conducts its research in an independent laboratory it maintains at Washington University Medical Center. The foundation also sponsors pathology fellowships at the School of Medicine to train physicians in the care of patients with diabetes and related disorders.

Lacy is the Robert L. Kroc Professor of Diabetes and Endocrine Diseases at Washington University School of Medicine. He is especially noted for his studies on the morphologic and metabolic events involved in insulin secretion by beta cells, transplantation of islets, and the development of procedures to modify the immunogenicity of the islets, and thus prevent rejection of islet transplants without the need for continuous immunosuppression of recipient animals. These basic advances have led to the initiation of islet transplantation as a possible therapeutic approach to human diabetes.

Lacy stepped down as head of the Department of Pathology, a position he held for more than 20 years, in 1985 to concentrate full time on his research. He remains on staff at Barnes, Children's and Jewish hospitals at Washington University Medical Center.

■ **Jacques U. Baenziger, M.D., Ph.D.**, professor of pathology at Washington University School of Medicine recently received MERIT status for his latest grant. The award is from the National Cancer Institute, part of the National Institutes of Health (NIH). MERIT (Method to Extend Research in Time) awards provide long-term, uninterrupted financial support to investigators who have demonstrated superior achievement during previous research projects.

Baenziger's research focuses on the role of sugars in regulating the movements of glycoproteins, carbohydrate-protein compounds that carry out cellular functions throughout the body. Specifically, he is studying the structure and function of the sugars present on glycoproteins, and exploring their potential to act as information-bearing macromolecules which may direct glycoproteins to certain sites within cells or allow cells to recognize each other. Eventually, he hopes to develop an understanding of how cells direct the trafficking of glycoproteins to different sites within the cell.

Baenziger joined the faculty in 1977 as an assistant professor of pathology. He received both his medical degree and Ph.D. from Washington University in 1975, and completed his residency and internship at the School of Medicine. He was named professor of pathology in 1984. On staff at Barnes Hospital, a sponsoring institution of the Washington University Medical Center, he also serves on the steering committee of the school's cellular biology program.

Baenziger is a member of several professional organizations, including the St. Louis Pathological Society and the American Society of Biological Chemists, and is on the editorial board for the *Journal of Biological Chemistry*. His previous honors include the U.S. Public Health Service Medical Scientist Training Award and a Research Career Development Award. Baenziger has published numerous articles, abstracts and reviews in various science journals.

St. Louis University

■ **William A. Knight III, M.D.**, has been appointed professor of internal medicine and director of the newly-reorganized division of oncology at St. Louis University School of Medicine.

Dr. Knight's areas of interest include bone marrow transplantation, the diagnosis and treatment of breast cancer, and the development of new anticancer drugs.

Through research conducted in the late 1970s, Dr. Knight discovered the value of the estrogen receptor as a means to identify those women who have a high chance of developing recurrent cancer after mastectomy. This discovery lead to the routine use of a test to predict outcome and select the most appropriate therapy for virtually all patients with breast cancer.

Dr. Knight also brings to the medical center his skills in bone marrow transplantation, a procedure that complements the transplant services already available at the medical center. His research in bone marrow transplantation has been funded by the Veteran's Administration. Since being trained in the area, he has performed more than 150 bone marrow transplants.

Dr. Knight received his medical degree from St. Louis University School of Medicine in 1973. Prior to returning to the medical center, he was an associate professor of medicine in the division of oncology at the University of Texas Health Science Center in San Antonio.

Dr. Knight is a member of the American Association for Cancer Research, the Bone Marrow Transplantation Committee of the Southwest Oncology Group, and was a U.S. delegate to the Second USA-USSR Working Meeting on Breast Cancer in 1979. He was also on the National Institutes of Health Consensus Conference, Adjuvant Chemotherapy of Breast Cancer, which developed standards for physicians throughout the country in treating breast cancer. Dr. Knight has published more than 70 papers dealing with cancer and bone marrow transplantation.

- The Warner-Lambert/Parke-Davis Pharmaceutical Research Division has awarded $158,600 to researchers at St. Louis University Medical Center for the first year of a research project. **Kenneth Smith, M.D.**, professor and chief of neurosurgery at the School of Medicine, will direct a study of the effects of the drug Dilantin on cognitive function in patients recovering from brain trauma. Co-investigators for the study are **John Selhorst, M.D.**, professor and chairman of neurology; **Robert M. Woolsey, M.D.**, professor of neurology; and psychologists **Herbert Goldman, Ph.D.**, and **Peggy R. Goldfader.**

University of Missouri-Kansas City

- UMKC medical students played a heroic role in a Dec. 30 fire at Truman Medical Center (TMC) by assisting in the evacuation of patients and monitoring them until they could be returned to their rooms. Students in the hospital at the time of the fire, as well as students who came to TMC to help, assisted firefighters, residents, nurses and other staff members in the evacuation and clean-up. The fire killed one patient and critically burned another.

- **Betty Barker-Smith, M.D.**, clinical professor of psychiatry, was recently named chairperson for the Division of Women's Programs at UMKC School of Medicine. The group has been instrumental in sponsoring seminars, retreats, recruitment of faculty members and influencing curriculum. Dr. Barker-Smith succeeds **Reaner Shannon, Ph.D.**, associate professor of medicine, who chaired the group for two years.

- **Doris Bartuska, M.D.**, national president-elect of the American Medical Women's Association (AMWA) recently helped the local AMWA chapter celebrate its tenth anniversary with a visit to Kansas City. During the course of her Feb. 27 visit, Dr. Bartuska made a Grand Rounds presentation on the "Endocrinology of Aging," at UMKC School of Medicine, accompanied students on rounds, and was honored at a luncheon and reception. Dr. Bartuska is a professor of Medicine and director of Endocrinology and Metabolism at the Medical College of Pennsylvania.

- The University of Missouri recently purchased 11 parcels of land adjacent to UMKC School of Medicine on Hospital Hill, to alleviate a parking shortage for medical students. Noteworthy are the efforts of medical students and their parents who helped work for these changes and the Truman Medical Center Charitable Foundation, which sold the land to UMKC for far less than its appraised value.

- The UMKC School of Medicine Student/Faculty Research Day is March 21. Faculty members display poster presentations and students make oral presentations on their research activities. Prizes will be awarded to the students in the categories of best material and best oral presentation. **Marino Martinez-Carrion, Ph.D.**, recently appointed dean of UMKC's School of Basic Life Sciences, will be the keynote speaker.

- **Julia Duckwall, Ph.D.**, joined UMKC School of Medicine as a postdoctoral fellow on Feb. 2. Dr. Duckwall, who recently completed her Ph.D. in Institutional Research at Florida State University, is working with the Office of Medical Education in Research. She previously has been director of Institutional Research at Bethany College in Kansas.

- **Narenda K. Khare, M.D.**, chief of the Section of Urology at UMKC and Truman Medical Center presented a paper recently in Agra, India. Dr. Khare presented "Use of Lasers in Urology" at the 46th Annual Conference of the Association of Surgeons of India.

- UMKC School of Medicine's monthly tabloid *p.r.n.* recently won an Award of Merit in the Alumni Newspaper-Tabloid competition of the Council for Advancement and Support of Education (CASE) District VI. The award was presented at the annual CASE convention during January in Lincoln, Neb.

- Many guest speakers have recently visited UMKC School of Medicine. They have included **Steven Wolff, M.D.**, from Vanderbilt University, who presented "Autologous Bone Marrow Transplantation" as a Hematology-Oncology Noon Conference, and **Theresa Brechner, M.D.**, from UCLA School of Medicine, who presented Medicine Grand Rounds on the topic of "Pain Management in the Cancer Patient." **Larry Kvols, M.D.**, came from the Mayo Clinic to present "Hormonal and Chemotherapy of Malignant Carcinoid and Islet Cell Tumors: Glimmers of Bright Light on the Therapeutic Horizon."

The University of Missouri-Columbia

- **Philip Anderson, M.D.**, professor of medicine, has been appointed by Missouri Governor John Ashcroft as a member of the U.S. Constitution Bicentennial Commission of Missouri. One of the first objectives of the committee will be to develop an advertising campaign to promote understanding of the Constitution.

- **James L. Austin, M.D.**, assistant professor of surgery has been awarded a three-year, $135,000 VA Merit Review grant to continue his pancreatic research.

- **Robert Burns, M.D.**, professor and chairman of ophthalmology, has received a $30,000 grant from Research to Prevent Blindness (RPB) to support research into the causes, treatment and prevention of blinding diseases. RPB is the world's leading voluntary organization for research on blindness.

- **James H. Butt, M.D.**, associate professor of medicine, has been appointed to the FDA Advisory Committee on GI Drugs. This committee meets four times per year to discuss all new gastroenterology drugs.

- **David Dueker, M.D.**, associate professor of ophthalmology, traveled to Venezuela to present several topics regarding laser treatment to the Venezuelan Ophthalmological Society Meeting the end of last year. He also presented "Perspectives on Neovascular Glaucoma" at the Yale Alumni Meeting and "Current Concepts in Glaucoma" at the Merck, Sharp & Dohme Research Laboratories Glaucoma Program.

- **G.W.N. Eggers, Jr., M.D.**, professor and chairman of anesthesiology, was elected vice president of scientific affairs by the House of Delegates of the American Society of Anesthesiologists.

- **Joseph Giangiacomo, M.D.**, associate professor of ophthalmology, and **Kenneth Barkett, M.D.**, former resident, have published an article, "Ophthalmoscopic Findings in Occult

Child Abuse" in the *1986 Year Book of Ophthalmology*, which encompasses worldwide literature and circulates nationally and internationally.

■ **Amar Kapoor, M.D.**, former member of cardiology division, has written a book: *Cancer and the Heart*, published by Springer-Verlag. **Brent Parker, M.D.**, professor of medicine, and **Martin Alpert, M.D.**, assistant professor of medicine, contributed chapters to this recently-released book.

■ **Edith Mitchell, M.D.**, assistant professor of medicine, represented Missouri in the American delegation at an international symposium sponsored by the Chinese Medical Association. Medical experts from 15 countries gathered in the People's Republic of China to discuss the effects of low-level radiation. The select delegation also visited cancer centers and medical schools to lead further discussions.

■ **Frank Mitchell, M.D.**, professor of surgery, has recently helped develop trauma center criteria. Dr. Mitchell is a senior member of the American College of Surgeons Committee on Trauma, and has completed trauma center reviews in Los Angeles, Philadelphia and South Eastern Pennsylvania. He also is chairman of the Missouri Committee on Trauma.

■ **Willis K. Paull, Ph.D.**, professor and chairman of anatomy, has been awarded a three-year, $219,615 grant from the National Institutes of Health to continue his research of "Neuroendocrinology of corticotropin releasing factor."

■ **Larry J. Petterborg, Ph.D.**, assistant professor of anatomy, has been awarded a Swedish Medical Research Council Fellowship through the International Research and Awards Branch of the Fogarty International Center and the National Institutes of Health. During his one-year fellowship, Dr. Petterborg will work with researchers at the Karolinska Institute in Stockholm, Sweden to investigate a possible genetic marker for depressive disorders.

■ **Michael Prewitt, Ph.D., R.T.**, assistant professor and associate director for student affairs of health related professions, was elected to the Board of Directors of the American Association for Respiratory Care. He also is chairman of the Association's education committee.

■ **P. Kevin Rudeen, Ph.D.**, associate professor of anatomy, received a four-year, $309,777 grant from the National Institutes on Alcohol Abuse and Alcoholism for continued studies of "Cellular Correlates of Perinatal Neuroendocrinopathies."

■ **Michael Rovetto, Ph.D.**, associate professor of physiology, recently co-chaired a session and presented a paper upon invitation at the Third International Symposium on Adenosine in Munich, West Germany.

■ **Gordon Sharp, M.D.**, professor of medicine and pathology, **Paul Agris, Ph.D.**, professor of medicine and biological sciences, and **Richard Wang, Ph.D.**, professor of biological sciences and research investigator at the Dalton Research Center, received a five-year, $690,000 grant from the National Institutes of Health to support their studies of Nuclear Acidic Protein Antigens in Rheumatic Diseases.

■ **Ronald Sprouse, Ph.D.**, professor of pathology at the University's School of Medicine, and **Harold Garner, D.V.M., Ph.D.**, professor of veterinary medicine and surgery at the University's College of Veterinary Medicine have developed a new vaccine which may save thousands of horses and millions of dollars each year. The vaccine, called endobactoid and released for sale in December, helps control the most serious of equine diseases, colic, laminitis and other diseases with endotoxin complications. Schering-Plough Corporation is licensed to manufacture and market the vaccine, making it available through veterinarians.

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New Members

■ **John E. Bennett, M.D.,** St. Mary's and Memorial Hospitals, Jefferson City 65101, has become a member of the Boone County Medical Society. Dr. Bennett received his preliminary education at Purdue University and his medical degree at State University of New York in 1967. He completed his residency training at St. Joseph's Hospital, Syracuse, N.Y. He specializes in family practice.

■ **Denise M. Hamar, D.O.,** 2902A McClelland Blvd., Suite 1, Joplin, 64801, has become a member of the Jasper County Medical Society. Dr. Hamar received her preliminary education at Alliance College and her osteopathic degree at the Oklahoma College of Osteopathic Medicine and Surgery in 1979. She completed her residency training at Garden City Hospital, Garden City, Michigan. She specializes in pediatrics.

■ **Thomas R. Highland, M.D.,** 3205 Lansing Ave., Columbia 65201, has become a member of the Boone County Medical Society. Dr. Highland received his preliminary education at Lewis College and his medical degree at the University of Missouri School of Medicine in 1979. He completed his residency training at Wayne State University, Detroit, Michigan. He specializes in orthopedic surgery.

■ **James G. Hunter, M.D.,** 2900 Hospital Drive, North Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Hunter received his preliminary education at Louisiana State University and his medical degree from Louisiana State University in 1975. He completed his residency training at Walter Reed Army Medical Center, Washington, D.C. He specializes in psychiatry.

■ **Rosemary Laramore, M.D.,** 2728 Plaza Drive, Jefferson City 65101, has become a member of the Boone County Medical Society. Dr. Laramore received her preliminary education at Texas Technological College and her medical degree at Baylor University in 1967. She completed her residency training at the University of Missouri Medical Center, Columbia. She specializes in psychiatry.

■ **Jerry L. Laster, M.D.,** n-512 1 Hospital Drive, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Laster received his preliminary education at North Texas State University and his medical degree at the University of Texas Southwestern in 1980. He is completing his residency training at the University of Missouri Hospital and Clinics, Columbia. He specializes in general surgery.

■ **Harry G. Miller, M.D.,** Hwy. 13 North, Clinton 64735, has become a member of the Henry County Medical Society. Dr. Miller received his preliminary education at Creighton University and his medical degree from Creighton Medical School in 1961. He completed his residency training at Philadelphia General Hospital, Philadelphia, PA. He specializes in orthopedic surgery.

■ **Stephen L. O'Keefe, M.D.,** 401 Keene, Columbia 65201, has become a member of the Boone County Medical Society. Dr. O'Keefe received his preliminary education at the University of Illinois and his medical degree at the University of Missouri-Columbia in 1972. He completed his residency training at University of Illinois, Chicago, Ill. He specializes in internal medicine.

■ **R. Wade Schondelmeyer, M.D.,** 3211 South Providence, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Schondelmeyer received his preliminary education at the University of Missouri-Columbia and his medical degree at the University of Missouri-Columbia in 1982. He completed his residency training at the University of Missouri Health Sciences Center, Columbia. He specializes in internal medicine.

■ **Donald C. Spencer, M.D.,** P.O. Box 208, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Spencer received his preliminary education at Stanford University and his medical degree at the University of California at Los Angeles in 1977. He completed his residency training at the University of Missouri-Columbia. He specializes in family medicine.

■ **Maria De Fatima Thomas, M.D.,** 108 E. Green Meadows, Suite 6, Columbia 65203, has become a member of the Boone County Medical Society. Dr. Thomas received her preliminary education at the Federal University of Alagoas, Institute of Biological Sciences, and her medical degree at the Federal University of Alagoas in 1975. She completed her residency training at the University of Missouri-Columbia. She specializes in psychiatry.

■ **William E. Wilkinson, M.D.,** Hilltop House, Rt. 2, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Wilkinson received his preliminary education at Louisiana State University and his medical degree at Louisiana State University in 1942. He completed his residency training at Chanty Hospital, New Orleans, LA. He specializes in psychiatry.

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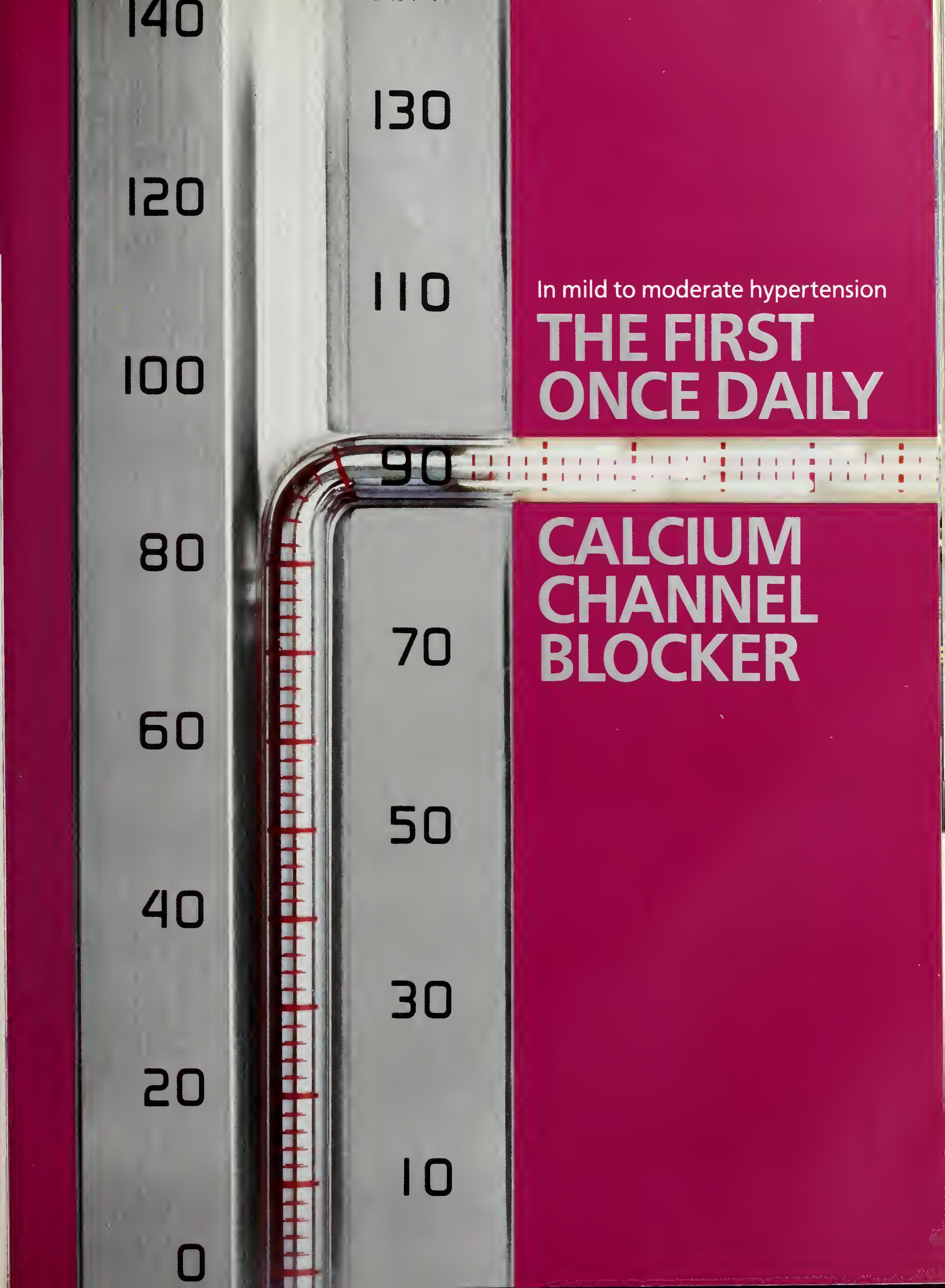

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JAMES B.
38, black male, heavy smoker. Prescribed a diuretic by another physician last year for hypertension.

YOUR CONCERNS
Presents with "smoker's cough." Workup reveals a BP of 150/107.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Black hypertensives often have low plasma renin activity and generally do not respond favorably to beta blockers.
- Beta blockers may increase the likelihood of bronchospasm.

ALICE W.
65, diabetic, overweight. Her BP has elevated to 190/98.

YOUR CONCERNS
She's on daily insulin.

A LOGICAL CHOICE FOR CONTROL OF HER BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike most beta blockers and diuretics, ISOPTIN has no adverse effects on serum glucose levels.
- Unlike most beta blockers, ISOPTIN does not mask the symptoms of hypoglycemia.

THOMAS G.
70, asthmatic. In the past, BP adequately controlled with 25 mg hydrochlorothiazide daily.

YOUR CONCERNS
Today patient presents with symptoms of gout. Workup reveals high uric acid level, low serum potassium, and BP elevated to 180/98.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike diuretics, ISOPTIN will not decrease serum potassium levels or elevate uric acid levels.
- Unlike beta blockers, ISOPTIN can be used safely in asthma and COPD patients.

JOHN K.
42, Annual physical uncovered diastolic BP of 102... confirmed on three successive office visits. Unresponsive to nonpharmacologic intervention.

YOUR CONCERNS
Salesman, spends many hours of his working day in car... total cholesterol level 300, HDL 35.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
- Unlike diuretics, ISOPTIN does not cause urinary urgency.
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CONTRAINDICATIONS: 1) Severe left ventricular dysfunction (see WARNINGS), 2) Hypotension (less than 90 mmHg systolic pressure) or cardiogenic shock, 3) Sick sinus syndrome or 2nd or 3rd degree AV block (except in patients with a functioning artificial ventricular pacemaker).

WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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■ Auxiliary Message

Continued from page 117

unlimited. Now is the time for the team of physician and spouse — Medicine and Auxiliary — to integrate the responsibility of promoting Medicine's image.

In the next months I would ask *Missouri Medicine* to **be prepared** — the Auxiliary will launch a statewide effort to promote Medicine's "people" — the physician and family. **Be amazed** — your image is better than you think. The story needs only to be told. **Be positive** — Medicine is still the most self-fulfilling, rewarding, and dedicated profession in existence. **Be active** — as a team member with the Auxiliary as we promote Medicine and its positive image. ■

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An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

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Physician's Recognition Awards

Twenty-four MSMA members qualified for the MSMA-AMA Physician's Recognition Award during December 1986.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Boone

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Dunklin

Gong T. Kuo, *Kennett*

Jackson

Angela Villanueva-Arroyo, *Kansas City*
John L. Barnard, *Kansas City*
R. Don Blim, *Kansas City*
Timothy T. Dalton, *Kansas City*
Reng Achary Dhanalakshmi, *Kansas City*
William D. Dixon, *Kansas City*
Charles P. Gauthier, *Kansas City*
E. Jerome Hanson, *Kansas City*
Robijn K. Hornstra, *Kansas City*
Richard T. O'Kell, *Kansas City*
Mark D. Ost, *Kansas City*
Richard L. Owens, *Kansas City*
William C. Van Buskirk, *Kansas City*

Jasper

David L. Straub, *Joplin*

Johnson

Mahavir K. Shridharani, *Warrensburg*
Thomas P. Wescott, *Holden*

St. Louis

Juergen G. Eisermann, *Ballwin*
William M. Hart, *St. Louis*
Reinald J. Kozikowski, *Bridgeton*
Marvin E. Levin, *St. Louis*
Sam J. W. Romeo, *St. Louis*
H. Robert Willis, *Kirkwood*

In Memoriam

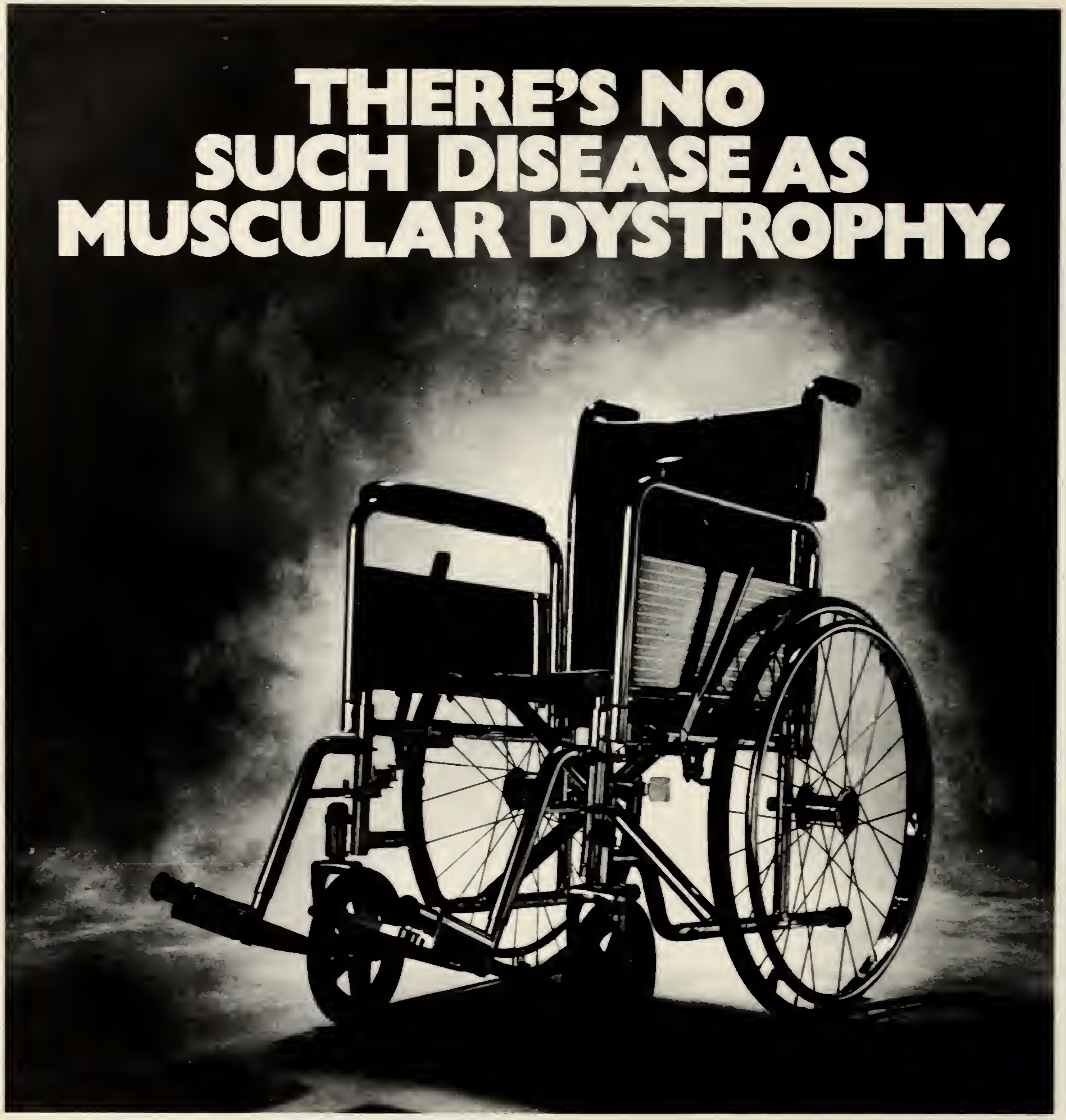
■ **John J. Brown, M.D.,** died December 24, 1986 at the age of 78. Dr. Brown, a general practitioner and surgeon, practiced medicine for 41 years in Fulton, Mo., before his retirement in 1976. He graduated from Washington University School of Medicine in 1934 and was a member of the Callaway County Medical Society.

■ **Lee Aker Hall, M.D.,** died January 15, 1987 at the age of 73. Dr. Hall, a gynecologist, practiced medicine in St. Louis for 39 years before leaving to become medical director of St. Joseph's Hospice in Fort Worth, TX, in 1980. He graduated from St. Louis University in 1936 and obtained his medical degree there in 1940. Dr. Hall was a member of the St. Louis Metropolitan Medical Society.

■ **Vaughn C. Payne, Sr., M.D.,** died January 9, 1987 at the age of 84. Dr. Payne, a radiologist, practiced medicine in St. Louis for 56 years. He graduated from Morehouse College in Atlanta in 1925 and obtained his medical degree in 1930 from Howard University College of Medicine. Dr. Payne was a member of the St. Louis Metropolitan Medical Society.

■ **L.R. Seabaugh, M.D.,** died December 19, 1986 at the age of 64. Dr. Seabaugh, a urologist, practiced medicine in Cape Girardeau for 29 years before retiring from active medical practice in 1980. He studied pre-medicine at the University of Misuri-Columbia and obtained his medical degree from Washington University School of Medicine in 1946. Dr. Seabaugh was a member of the Cape Girardeau Medical Society.

■ **Elias M. Throne, M.D.,** died January 15, 1987 at the age of 64. Dr. Throne, certified in physical medicine and rehabilitation, served in the Army medical corps for 25 years. At the time of his death, Dr. Throne was senior vice president of medical affairs at Research Medical Center in Kansas City. He obtained his medical degree in 1949 from the University of Kansas Medical Center. Dr. Throne was a member of the Metropolitan Medical Society of Greater Kansas City.



It's true. Because "muscular dystrophy" is the term for a *group* of twelve diseases—and no one disorder goes by that name.

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MDA

Muscular Dystrophy Association, Jerry Lewis, National Chairman

Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

March

16-17 **Computers in Medicine** — Location: Aspen, CO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18 **Reconstructive Surgery for Patients with Cancer of the Head and Neck** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

25-26 **Advanced Cardiac Life Support Provider Course** — Location: Fransisco Lounge, Student Center, University of Kansas Medical Center. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

26-27 **Respiratory Critical Care** — Location: Columbia Hilton, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

April

3-4 **American Society for Microbiology** — Location: Breckenridge on the Lake, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

10-12 **New Technology in the Management of Diabetes Mellitus** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

23-24 **Current Management in Critical Care** — Location: Kansas City Southwest Clinical Society. Contact: Linda F. Smutz, Executive Director, 222 W. Gregory, Kansas City, MO 64114. 816/523-3383.

25 **Anticoagulant and Antithrombotic Therapy: State of the Art** — Location: Alameda Plaza Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4480.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

29-May 2 **Surgery of the Spine: State of the Art** — Location: Marriott's Pavilion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow, Kansas City, KS 66103. 913/588-4494.

8 **Arthritis Conference** — Location: Columbia, MO. Contact Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

June

4-5 **Patent Development and Biotechnology Transfer Programs for Academic Health** — Location: Stouffer Concourse Hotel, St. Louis, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 **Neuroendocrine Tumors: Pathologic and Clinical Characteristics** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

July

18 **Interoperative Radiation: A New Combined Treatment Approach to Cancer** — Location: University of Kansas Medical Center, Kansas City, KS. Contact: Eileen Buttron, University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4480.

August

1-8 **Rhinology, Rhinologic Surgery and Rhinomanometry** — Location UMKC School of Dentistry, Kansas City. Contact: Pat A. Barelli, M.D., course director, 2929 Baltimore, Suite 105, Kansas City, MO 64108. 816/561-4423.

October

3-4 **Infectious Disease Update 1987** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

9-10 **30th Annual Physician Alumni Weekend** — Location: UMC School of Medicine, MA217 CME Auditorium, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA 215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

17 **Rheumatology Former Fellows Conference** — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

22-23 **Chronic Obstructive Pulmonary Disease Update** — Location: Columbia Hilton Inn, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

November

7 **Rheumatology Update** — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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Emergency Medicine — Level I Trauma Center — Major university teaching hospital is conducting a search for Emergency Department Physicians. Excellent remuneration and challenging medical environment. Interested applicants should send resume to: Barry R. Trautman, HealthLine Physicians Services, 8401 Hanley Industrial Court, St. Louis, MO 63144.

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Positions Wanted

Position wanted. Board Certified Cardiologist (internist) Invasive — Non Invasive, Missouri licensed, wishes to join group, hospital, industry, company, etc. Reply to Box No. 8, c/o MSMA, P.O. Box 1028, Jefferson City, MO 65102.

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Missouri Medicine

Journal of the Missouri State Medical Association

April 1987

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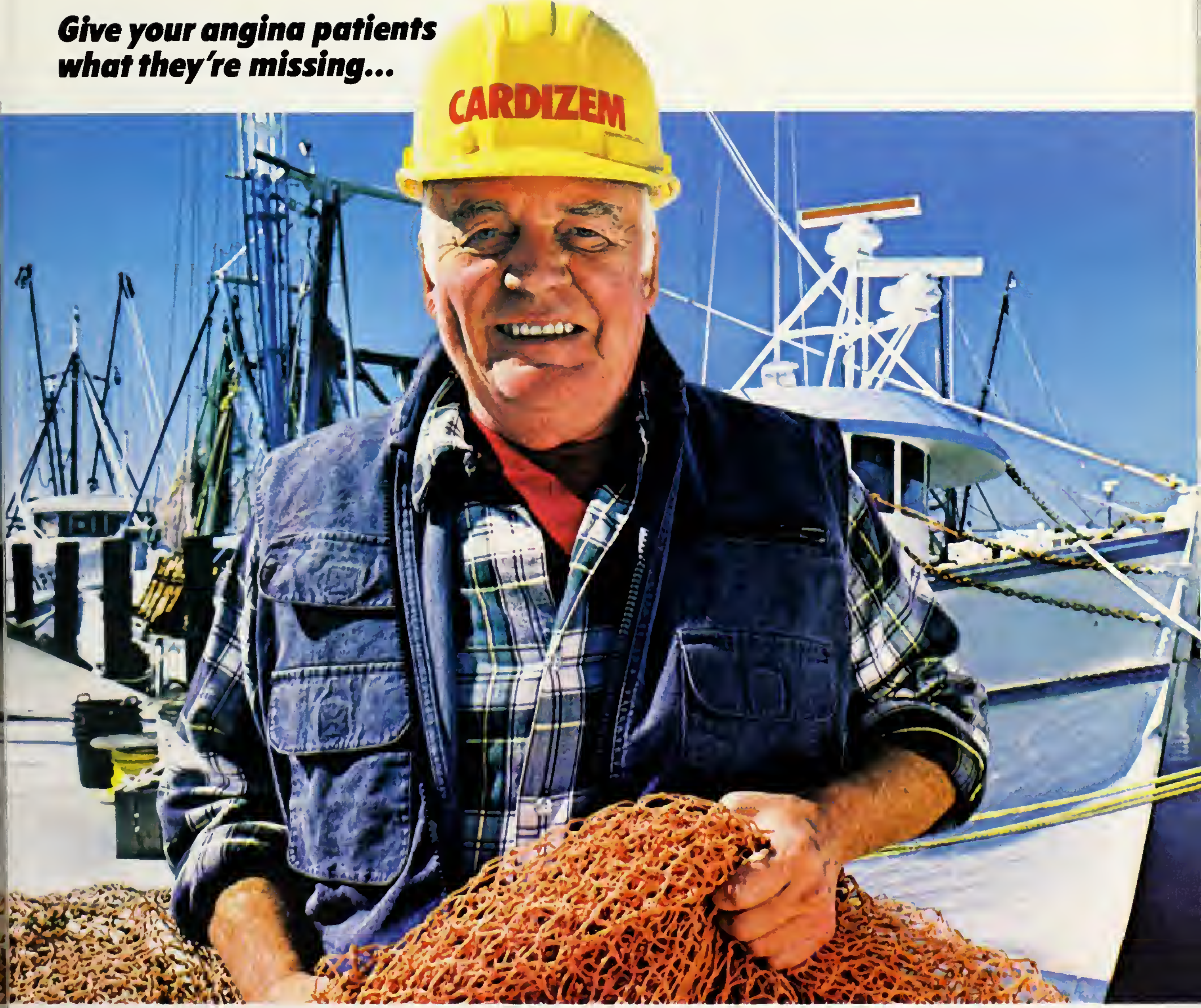

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- **Compatible with other antianginals[2,3]***
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***See Warnings and Precautions.**

Please see brief summary of prescribing information on the next page.

CARDIZEM® FEW SIDE EFFECTS IN ANTIANGINAL THERAPY

diltiazem HCl/Marion

60 mg tid or qid

Brief Summary
Professional Use Information

CARDIZEM®
(diltiazem HCl) 30 mg and 60 mg Tablets

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies desighed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%).

Cardiovascular	Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope
Nervous System	Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor
Gastrointestinal	Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase
Dermatologic	Petechiae, pruritus, photosensitivity, urticaria
Other	Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 7/86

See complete Professional Use Information before prescribing.

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"Marigolds," color photograph by Michael Bamshad, a fourth-year medical student at the University of Missouri-Kansas City. Bamshad is the son of Jerry Bamshad, M.D., a St. Louis dermatologist.

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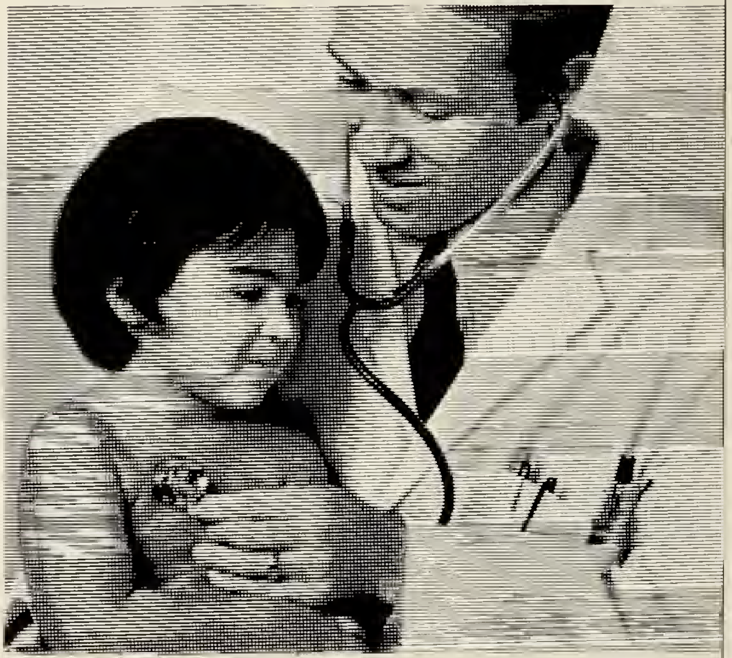

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MSMA Progress Notes

Larry G. Piepergerdes, M.D. installed as MSMA president

Larry G. Piepergerdes, M.D., Kansas City, was installed on April 4 as the 1987-1988 president of the Missouri State Medical Association (MSMA). The formal ceremony took place during the MSMA 129th Annual Convention held at Tan-Tar-A, Lake of the Ozarks. H. Peter Ekern, M.D., Mexico, 1986-1987 MSMA president, conducted the ceremony.

A practicing ophthalmologist, Dr. Piepergerdes is a native of Missouri. He completed undergraduate degrees at Graceland College, Lamoni, IA, and Iowa State University, Ames. He received his M.D. degree from the University of Missouri-Columbia School of Medicine in 1964, and completed a residency in ophthalmology at the University of Iowa, Iowa City.

Dr. Piepergerdes has been active in many facets of organized medicine, having served MSMA as a Councilor, Vice Councilor and Chairman of the governing Council prior to his election as President-Elect in 1986. He also serves as a delegate to the American Medical Association House of Delegates from Missouri, and is a past president of the Missouri Ophthalmological Society, and the Iowa Eye Association.

In his community, Dr. Piepergerdes has been active with the YMCA, The Kansas City Club, Rotary, and the United Methodist Church of Lee's Summit.

Dr. Piepergerdes and wife, Margaret, have three children ■

Important PRO update

The Health Care Financing Administration (HCFA) is leaning on the Missouri Patient Care Review Foundation to implement Section 3015 B.1.b. of peer review organization (PRO) transmittal 85-5 calling for automatic sanction recommendations when a hospital, within a single quarter, has had three inappropriate transfers or readmissions within 15 days from discharge.

HCFA also has instructed Missouri's PRO to develop an affirmative action plan regarding physicians who fail to respond on a timely basis to letters regarding quality of care. Effective February 25, 1987, the initial quality letter to a physician will identify the course to be followed by the PRO if the physician does not respond to the letter.

When a "substantial number of cases" go unresolved, or one or more "gross and flagrant" cases are identified, sanction activities will be initiated. Each unresolved problem becomes a permanent record in the physician's profile. ■

Non-pharmacy dispensing guidelines

Questions arise concerning the requirements physicians must meet when dispensing drugs. The following rules were enacted by the State Board of Registration for the Healing Arts and became effective in September 1984.

- Physicians must provide patients the freedom of choice concerning the source of drugs and devices prescribed during the course of the physician/patient relationship (P/PR). No physician may require, as a condition of the P/PR, that the patient only receive drugs dispensed directly from the physician's office or clinic. Also, a physician cannot require any patient to use the services of any particular pharmacy.

- Physicians must provide appropriate, direct supervision to personnel employed to assist in the dispensing of drugs and devices from the physician's office. Physicians may not permit dispensing of medication from the clinic or office when that physician is not present, unless another physician, duly licensed under the provisions of 334 RSMo, is present.

- Physicians must comply with the regulations governing the types of containers that may be used to repackage prescription drugs as specified by federal law, rule or regulation unless the individual to whom the drug is dispensed gives written authorization for the container to be otherwise.

- All drugs dispensed by a physician shall bear a permanent label with the following information affixed to the exterior of the drug container: date, patient's name, complete directions, physician's name and address and the exact name and strength of the drug dispensed. In the case of a generic drug, the name of the manufacturer or repackager of the drug will be listed on the label. No physician may dispense a generic drug and affix to the label any trade name or other identification that would serve to misrepresent the source of the drug.

- Physicians may dispense only to individuals with whom they have a P/PR. No physician may dispense medication at the order of any other physician not registered to practice at that same location.
- This rule is not intended to interfere with the physician's appropriate dispensing of professional samples nor is it intended to interfere in any way with the physician's right to directly administer drugs or medicines to any patient.
- Whenever dispensing medication, appropriate records shall be maintained. These records must contain the patient's name and the name, quantity, dose and strength of the drug dispensed. A separate log must be maintained for controlled substance dispensing. ■

MSMA offers two workshops in May

How can you improve third party reimbursement and coding?

Need some help on getting started in medical practice?

In May, Conomikes Associates, Inc., a medical practice consulting firm based in Marina del Rey, CA, will present workshops sponsored by MSMA in Kansas City and St. Louis.

The one-day workshop, "How to Improve Third Party Reimbursement and Coding" will be held May 5 at the Hyatt Regency Hotel in Kansas City, and May 6 at Stouffer's Concourse Hotel in St. Louis. The seminar costs $165 per person and lunch is included.

On May 7-8 at Stouffer's Concourse Hotel in St. Louis, Conomikes Associates will present the two-day workshop "How to get Started in Medical Practice." MSMA members pay $125 for the workshop and non-members pay $150. The registration fee covers the cost of the workshop and lunch both days. It does not include hotel accommodations.

Checks should be made payable to the Missouri State Medical Association. For more information or to register contact: Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102. ■

Medical care index up

The Medical Care Index was up a consistent 0.6% in January, yielding a 12-month change of 7.5%. This is the smallest 12-month change since the June 1985-June 1986 period. Physician services were up 0.8% for the third time in five months, and 8.1% for the 12-month period. Hospital and other medical care increased 6.9% during the 12-month period. ■

Medicaid drugs

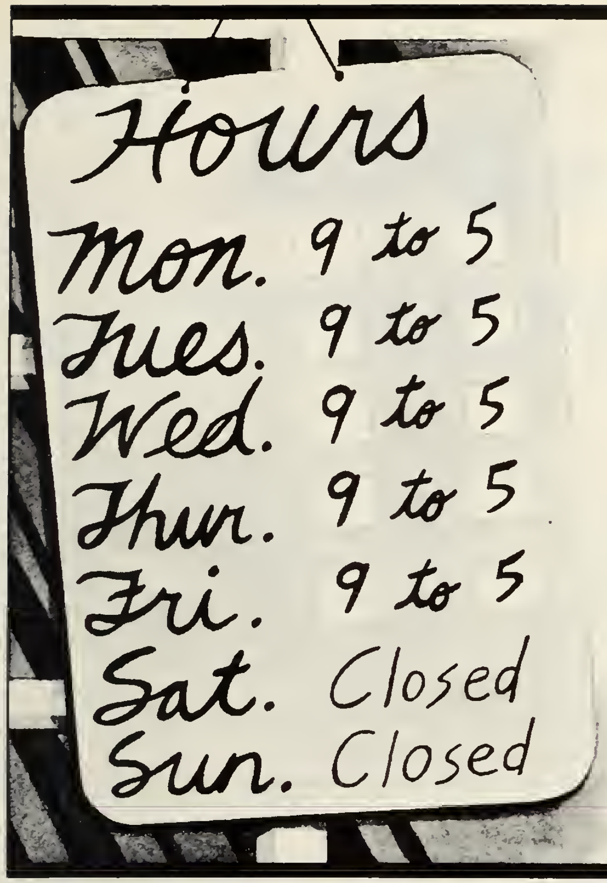
The Division of Medical Services recently published two proposed amendments to the Medicaid formulary. DMS also proposed a new rule which would affect Medicaid drugs.

The first proposed amendment would affect the Medicaid formulary. In accordance with the amendment, the following four items would be added to that list: Famotidine, Guanfacine HCl, Permethrin Creme Rinse and Verapamil HCl Sustained Release Tablets.

A second proposed amendment would add two items, Guanfacine HCl and Verapamil HCl Sustained Release Tablets, to the list of drugs and supplies exempt from the five prescription per month limitation created by Medicaid.

The new rule, concerning a non-steroidal, anti-inflammatory drug list, would authorize reimbursement to participating Medicaid pharmaceutical providers for the drugs, ibuprofen and indomethacin. The drugs would be limited to eligible Medicaid recipients for whom a medical diagnosis of an arthritic condition was established. Prior authorization requests for ibuprofen and indomethacin may be considered on an exception basis for cases in which the prescribing physician certified that at least one of the drugs authorized under this rule has been used without success. Drugs approved for coverage under the rule will not be subject to the five prescription limit per month per recipient.

Both the proposed amendments and the proposed rule have 30-day comment periods. ■



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INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings however such as hypertension or angina where there is little correlation between plasma levels and clinical effect INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period

The mechanism of the antihypertensive effect of INDERAL has not been established Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output (2) inhibition of renin release by the kidneys and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain Although total peripheral resistance may increase initially it readjusts to or below the pretreatment level with chronic use Effects on plasma volume appear to be minor and somewhat variable INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients

In angina pectoris propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate systolic blood pressure and the velocity and extent of myocardial contraction Propranolol may increase oxygen requirements by increasing left ventricular fiber length end diastolic pressure and systolic ejection period The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity

In dosages greater than required for beta blockade INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential The significance of the membrane action in the treatment of arrhythmias is uncertain

The mechanism of the antimigraine effect of propranolol has not been established Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain

Beta receptor blockade can be useful in conditions in which because of pathologic or functional changes, sympathetic activity is detrimental to the patient But there are also situations in which sympathetic stimulation is vital For example in patients with severely damaged hearts adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved In the presence of AV block greater than first degree beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm

Propranolol is not significantly dialyzable

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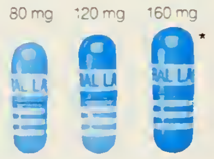

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension It may be used alone or used in combination with other antihypertensive agents particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis especially for treatment of exertional or other stress-induced angina palpitations and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock 2) sinus bradycardia and greater than first degree block 3) bronchial asthma 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS. CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE continued use of beta blockers can in some cases lead to cardiac failure Therefore at the first sign or symptom of heart failure the patient should be digitalized and/or treated with diuretics and the response observed closely, or INDERAL should be discontinued (gradually if possible)

> IN PATIENTS WITH ANGINA PECTORIS there have been reports of exacerbation of angina and in some cases myocardial infarction following abrupt discontinuance of INDERAL therapy Therefore when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema) – PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted however that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL (propranolol HCl) like other beta blockers is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents e g dobutamine or isoproterenol However such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes In these patients it may be more difficult to adjust the dosage of insulin

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism including thyroid storm Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME several cases have been reported in which after propranolol the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS. *General* Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

Clinical Laboratory Tests Elevated blood urea levels in patients with severe heart disease elevated serum transaminase alkaline phosphatase lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension marked bradycardia vertigo syncopal attacks or orthostatic hypotension

Carcinogenesis Mutagenesis Impairment of Fertility Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice employing doses up to 150 mg/kg/day there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

Pregnancy Pregnancy Category C INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers INDERAL is excreted in human milk Caution should be exercised when INDERAL is administered to a nursing woman

Pediatric Use Safety and effectiveness in children have not been established

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular bradycardia congestive heart failure intensification of AV block hypotension paresthesia of hands thrombocytopenic purpura arterial insufficiency usually of the Raynaud type

Central Nervous System lightheadedness mental depression manifested by insomnia lassitude weakness, fatigue reversible mental depression progressing to catatonia visual disturbances hallucinations an acute reversible syndrome characterized by disorientation for time and place short-term memory loss emotional lability slightly clouded sensorium and decreased performance on neuropsychometrics

Gastrointestinal nausea vomiting, epigastric distress abdominal cramping, diarrhea constipation mesenteric arterial thrombosis ischemic colitis

Allergic pharyngitis and agranulocytosis erythematous rash fever combined with aching and sore throat laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis nonthrombocytopenic purpura thrombocytopenic purpura

Auto-Immune In extremely rare instances systemic lupus erythematosus has been reported

Miscellaneous alopecia LE-like reactions, psoriasiform rashes dry eyes, male impotence and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL tablets to INDERAL LA capsules care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg for mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION — *Dosage must be individualized* The usual initial dosage is 80 mg INDERAL LA once daily whether used alone or added to a diuretic The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS — *Dosage must be individualized* Starting with 80 mg INDERAL LA once daily dosage should be gradually increased at three to seven day intervals until optimum response is obtained Although individual patients may respond at any dosage level the average optimum dosage appears to be 160 mg once daily In angina pectoris the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE — *Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimum migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks

HYPERTROPHIC SUBAORTIC STENOSIS — 80-160 mg INDERAL LA once daily

PEDIATRIC DOSAGE — At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

New words enter the dictionary because of a need for them. Four new medically-related terms are revealed here.

What a dictionary reveals about medicine

There's a big, new dictionary in our office — 2129 pages long — which obviously contains a lot of words. However, there's one word now being bandied about which isn't even in it — *gatekeeper.*

New words enter the dictionary because of a need for them. In these medico-economic times, a wall has been construed as necessary to separate patients from all the various diagnostic and treatment methods now available. In structured health plans, money has to be saved, and there must be a guarded gate separating the patients from the elaborate side of the wall. The gate apparently must have a guard with a big stick — a "keeper."

We assume that if there's a gatekeeper, then there must also be a gatehouse. The plan seems to be that a primary care physician lives there, and while handling 90% of the health problems directly, lets the other 10% go through the gate to the more sophisticated and expensive pastures. There are several argued economic concepts pertinent to this arrangement: medical care in the United States has to be delivered in highly organized systems; the economy cannot afford all the medical care modalities now available; allowing gate entry to specialist management costs the system much more money.

The corollary word involved in this type of medical practice is *capitation.* This word is in the big dictionary, defined in part as a "fee for each person." If this word ever gets into a medical dictionary, it will probably have to be described as a charge which the doctor keeps more of as service to the patient becomes less, since this appears to be the core of the concept.

At this time some gatekeeping systems work on a capitation principle — more commonly in HMOs, while others — often the IPAs — place the specialists' care on a fee-for-service basis. The word which actually describes this type of health care is *rationing* — a word no one in government dares use. A health care plan promotor would probably be fired if he admitted that the policies he sells need to restrict care in order to make money for the organization. Physicians have always kept gates in their practices; perhaps it's the idea that we're now being told that this has to be done "just so" that galls us.

There are many moral and fiscal considerations in this system-with-a-gate which is not supposed to swing open too easily. Physician practice groups, insurance companies, hospitals, politicians and various "health professionals" of all persuasions are pointing fingers at each other concerning the effect on the quality of medical care of a too tightly kept gate.

Fingerpointing. There's another word not in the dictionary, but if all of the back-and-forth arguments about proper health care continue, it soon will be. Pointing of fingers isn't what health care is supposed to be all about, but that's what's mostly happening right now. ■

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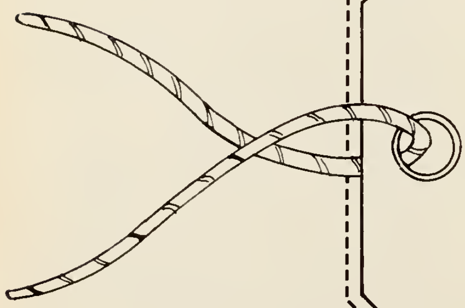

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PRESIDENT'S PAGE

by Larry G. Piepergerdes, M.D.

Larger organizations offer their membership combined power and unity of purpose which enhance each member's interest.

Why belong

"No class of men needs friction so much as physicians; no class gets less. The daily round of a busy practitioner tends to develop an egotism of a most intense kind, to which there is no antidote. The few set-backs are forgotten, and mistakes are often buried, and ten years of successful work tend to make a man touchy, dogmatic, intolerant of correction and abominably self-centered. To this mental attitude, the medical society is the best corrective, and a man misses a good part of his education who does not get knocked about a bit by his colleagues in discussions and criticism."

—*Sir William Osler*

Everyone has reasons for joining a given organization. Many cite social, economic or political concerns as their motivation for membership while others cite the potential membership benefits in the organization as their motivating factor.

Larger organizations offer their membership combined power, unity of purpose, and democratically determined goals which enhance each member's individually-derived interest.

As physicians, we address our need for representation in organized medicine by joining our local medical society, the Missouri State Medical Association (MSMA), and the American Medical Association (AMA). As members, we commit both our time and financial support to ensure the growth and advancement of our profession.

Medicine is a diversified profession. In order to achieve our ultimate goal of providing the highest quality health care to all patients, organized medicine must have a broad-based membership. Therefore, physicians from all specialties should participate in their local societies, MSMA, and AMA so that our group effort will achieve our goals.

Plan now to participate in the growth and unity of our profession. Join today so that you do not miss a good part of your contemporary education.

More than 6,500 medical students, residents, and physicians belong to MSMA.

Isn't it time that you instigated some discussion among your colleagues? ■

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Auxiliary Message

By Joan H'Doubler
MSMAA Doctors'
Day Chairman

Physicians statewide were honored on "their day," March 30.

Sandy Mitchell, MSMAA president-elect; Governor John Ashcroft; Gayle Vilmer, MSMAA president, and Joan H'Doubler, MSMAA Doctors' Day chairman, participate in proclaiming March 30 Doctors' Day.

Doctors' Day celebrated March 30

What is Doctors' Day? Annually on March 30, medical auxiliaries around the country recognize men and women practitioners of the medical arts. We auxilians understand the dedication, sacrifice, compassion, patience, kindness, selflessness, courage and skill required of our spouses as they give of themselves to improve the quality of life for us all. These same individuals have not only devoted themselves to medicine, but also are active civic, religious and community leaders as well.

Doctors' Day has been observed since 1933. The originator of Doctors' Day, Eudora Almond Brown of Georgia, presented to the Barrow County Auxiliary the idea of having a day to honor members of the medical profession. March 30 was selected for the observance of Doctors' Day. On this date in 1842 the famous Georgian, Dr. Crawford W. Long, became the first physician to use ether as an anesthesia during a surgical procedure.

The red carnation is the symbol of Doctors' Day. Gayle Vilmer, MSMA Auxiliary President; Sandy Mitchell, MSMA Auxiliary President-elect, and Joan H'Doubler, MSMA Auxiliary Doctors' Day Chairman presented Gov. John Ashcroft with a red carnation boutonniere when he signed a proclamation honoring Missouri's Doctors' Day celebration.

Auxilians around Missouri increased public awareness of the services doctors provide. Several Auxiliaries treated their physicians to dinner, donated time at community organizations such as Child Abuse and Neglect Centers, visited retired physicians and presented them with a red carnation, and provided coffee, sandwiches and cookies in the doctors' lounge at their physicians' hospitals. ■

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PRACTICE MANAGEMENT

by George S. Conomikes

Here's some advice on how to maintain a satisfactory flow of patient contacts, with as little "down" time as possible.

Back office tips

A prominent physician once told me that he approached his back office as he approached his bedroom — reluctantly, often impulsively, and usually in the dark. One of the least examined areas of the medical practice is the activities in the back office.

Our studies of the activities, motions, patient flow and communications patterns of many practices have shown us significant time losses, needlessly spent energy and direct effects on productivity.

The following suggestions assume that the physician wishes to maintain a satisfactory flow of patient contacts, with as little "down" time as possible. Also, we are interested in conserving the physician's energy-effort expenditure (and that of his back office personnel).

Don't have patients waiting in back office areas. They are seeing too much. They may expect to be able to converse with physicians or nurses. They don't like being "shuttled" from reception room to back office waiting area to examination room. They get in the way.

Have examination rooms in a smooth flow. Don't have your consulting room in the middle of two, three or four examination rooms. You will overuse the consulting room or you will waste steps walking past the consulting room, which should be at one end or another of your examination rooms layout.

Try to make the examination room work. Most physicians are finding that their entire patient contact can take place in the examination room.

Don't overuse the consulting room. Patients don't expect it; it slows you down and may involve you in redundant conversation.

The biggest time-wasting flow is meeting the patient in the consulting room; then examining in the examination room; followed by a "results" session in the consulting room.

You may think the patient is getting more personal service, but in fact the patient is being made to wait for you three times rather than once.

Don't be interrupted. One of our studies of a dermatologist's practice indicated, on the average, that each patient-physician contact was interrupted three to four times by phone calls. It's rude to the patient, and it slows you down. Most calls can be held for a call-back.

Try to make the examination room as small as possible. Save steps; be able to reach most things you require for examining the patient. Be able to have more examination rooms rather than a few large ones. Have reading matter on hand for the patients so their waiting time doesn't drag in the examination room.

Observe the 40 inch rule. Most things used most of the time in the examination room should be within 40 inches (your reach capability) of where you are usually located when working with the patient. This means lights and light switches; instruments; dressings; gloves; depressors; towels; medications; and maybe the wash basin. Don't walk when you can reach.

Continued on page 186

Practice Management

Continued from page 185

Keep cabinets within reach. Wall cabinets that hold frequently used supplies should not necessarily be located flush to the ceiling. Sometimes they should be lowered for easier access by you and your aides.

Have a minimum of three examination rooms. If you leave Room 1, and the patient in Room 2 is a "quickie," the patient in Room 1 may still be dressing or grooming. You are stopped if you don't have a third examination room with a readied patient.

Have a "work station." Rather than a traditional nurse's station, there could be a working surface within the flow of the back office, out in the open with two phones, one for the doctor and one for the nurse. Nursing stations that are behind walls mean that you can't easily see the physician(s).

A good "work station" can be used by the doctor, as well as the nurse, for most call-backs: calls from other physicians; writing of quick notes; hospital contacts; quick conferences with nurses and/or colleagues; and dictation.

Set up a communications system. It is good to have some sort of signaling device (pull-out flags, discs, lights, etc.) that indicates who's in the examination room — patient, doctor, or nurse. Also, some sort of system, such as a buzzer, to call a nurse or technician, is generally helpful in reducing physician down-time.

Don't "lose" the nurse. Many doctors complain that their nurse is not there "when I need her." Usually, this is related to the fact that he really has not properly integrated her into his work pattern and preferences. Sometimes it is due to her being unnecessarily interrupted to handle tasks (patient phone calls, hospitals, pharmacies, labs, etc.) that could be deferred for a few minutes.

Arrange for a break-time. It may be helpful for some practitioners to consider improving their flows by taking a break-time of about 15-20 minutes every 90 minutes. This time would be utilized by the physician and his nurse to do their call-backs, chart review and communication with others in the practice.

In this way patient contact time could be maximized. Less interruption would result, and a helpful change of pace from "hands-on" medicine is built into the busy practice day. ■

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Acquired Methemoglobinemia

A Case Report

John W. Foxworth, Pharm.D., Jesse A. Roberts, M.D., Said F. Mahmoud, M.D.
Kansas City, Missouri

Methemoglobinemia is sometimes acquired after exposure to certain chemicals. The mechanisms by which methemoglobin may be reduced to normal hemoglobin are discussed, as are diagnostic tests.

Acute methemoglobinemia is an uncommon and confusing clinical problem. The PaO_2 value may be normal despite cyanosis, which is sometimes severe, with blue-brown skin and mucous membrane discoloration. Without rapid diagnosis and treatment, death may ensue. Methemoglobinemia may be hereditary, but more frequently is acquired after exposure to one or more of several drugs or chemicals (Table).[1, 2] In order to emphasize the potential severity of this adverse drug reaction upon exposure to commonly used agents, we present a case in which topical application of lidocaine or benzocaine induced methemoglobinemia.

Case Report

An 84-year-old white woman was admitted for right lower and middle lobe pneumonia and dehydration. She had a history of carcinoma of the breast with pulmonary metastases. Medications prior to admission were naproxen, triamterene and hydrochlorothiazide (Dyazide), and tamoxifen. Room air blood gas levels on admission were: PaO_2 75.3 mm Hg, $PaCO_2$ 33.6 mm Hg, pH 7.422, HCO_3^- 21.7 mm/l saturation 95.1%. Analysis by cooximetry (Instrumentation Laboratories Model 282) revealed a methemoglobin level of 0.7%, and a hemoglobin of 12.2 grams/dl. The O_2CT was 17.3 vol %. Repeat room air blood gas analysis two days later showed deterioration: PaO_2 53.2 mm Hg, $PaCO_2$ 23.8 mm Hg, pH 7.36, HCO_3^- 13.2 mm/l, saturation 85.7%; methemoglobin by cooximetry 0.6%. Oxygen was administered at 4 liters per minute by nasal cannula and repeat arterial blood gas analysis revealed a PaO_2 of 112.9 mm Hg, $PaCO_2$ 28.2 mm Hg, pH 7.409, HCO_3^- 17.7 mm/l, saturation 98.2%; methemoglobin level was not reported.

Pulmonary consultation was requested, and after cultures were obtained, treatment was instituted with cefoxitin, tobramycin, and cimetidine. IPPB treatment was begun with isoetharine (Bronkosol). Erythromycin was added later. Methylprednisolone was administered intravenously for four days. On the fifth hospital day, fiberoptic bronchoscopy was performed after benzocaine (Cetacaine) was administered to nose and throat mucosa and aerosolized 2% lidocaine was administered to the large airways.

During and immediately after the procedure, the patient became cyanotic, lethargic, diaphoretic and tachypneic; sinus tachycardia was noted. The procedure was terminated as quickly as possible, and arterial blood gas analysis was obtained. The results were PaO_2 179.8 mm Hg, $PaCO_2$ 31.0 mm Hg, pH 7.389, HCO_3^- 18.5 mm/l. Saturation and methemoglobin level were 53.4%, and 47.5% respectively, by cooximetry. One hundred milligrams of methylene blue (1.9 mg/kg) as a 1% solution was administered intravenously over five minutes. Blood gas analysis one hour later on 50% ventimask showed PaO_2 142 mm

Table
Drugs and Chemicals Associated With Methemoglobinemia

Acetanilid
Acetophenetidin
Alloxans
Alpha naphthylamine
Aminophenols
Ammonium nitrate
Amyl nitrate
Aniline dyes
Anilinoethanol
Antipyrine
Arsine
Benzocaine
Bismuth subnitrate
Chlorates
Chloranilines
Chlorobenzene
Chloronitrobenzene
Cobalt preparations
Corning extract
Crayons, wax (red or orange)*
Dapsone
Diaminodiphenylsulfone
Diesel fuel additives
Dimethylamine
Dimethyl aniline
Dinitrobenzenes
Dinitrophenol
Dinitrotoluene
Hydroquinone
Hydroxylacetanilid
Hydroxylamine
Inks, marking
Kiszka
Lidocaine
Menthol
Meta-chloraniline
Methylacetanilid
Methylene blue
Monochloroaniline
Moth balls
Naphthylamines
Nitrates
Nitrites
Nitrobenzene
Nitrogen oxide
Nitrofurans
Nitroglycerin
Nitrophenol
Nitrosobenzene
Pamaquine
Para-amimopropiophenone
Para-bromoaniline
Para-chloronaniline
Para-nitroaniline
Para-toluidine
Pentaerythritol tetranitrate
Phenacetin
Phenetidin
Phenols
Phenylazopyridine
Phenylenediamine
Phenylhydrazine
Phenylhydroxylamine
Phenytoin (Dilantin)
Piperzaine
Plasmoquine
Prilocaine
Primaquine
Propitocaine
Pyridium
Pyrogallol
Pyridine
Quinones
Resorcinol
Shoe dye or polish
Spinach
Sulfonal
Sulfonamides
Sulfones
Tetranitromethane tetronal
Tetralin
Toluenediamine
Toluidine
Toluylhydroxylamine
Trichlorocarbanilide (TCC)
Trinitrotoluene
Trional

* No longer manufactured

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Hg, PaCO$_2$ 31 mm Hg, pH 7.44, HCO$_3^-$21 mm/l; saturation 92.3%, and methemoglobin by cooximetry 4.9%. A repeat methemoglobin analysis was 2.4% the following day, and lower values were obtained for the remainder of the hospitalization. The patient had several severe complications during hospitalization, and died for reasons unrelated to the methemoglobinemia.

Discussion

Methemoglobin is hemoglobin containing iron in the ferric (Fe^{3+}) state, rather than in the ferrous (Fe^{2+}) or reduced state, and is formed from unoxygenated hemoglobin. In erythrocytes of adults, only 1% of hemoglobin should be in the methemoglobin form at any time; this amount is physiological and harmless.[1] When this level is exceeded, however, methemoglobinemia exists.[6] In the major pathway of methemoglobin reduction, nicotine adenine dinucleotide (NADH) diaphorase catalyzes the reduction of cytochrome b$_5$, utilizing NADH as a hydrogen donor. The reduced cytochrome b$_5$ reduces methemoglobin to hemoglobin.[4] A minor pathway utilizing nicotine adenine dinucleotide phosphate (NADPH) diaphorase for methemoglobin reduction also exists.[6]

Methemoglobin is incapable of carrying oxygen or carbon dioxide.[1] When methemoglobin levels achieve substantial percentages, there is a resultant loss of hemoglobin capable of proper oxygen transport. There is also a leftward shift in the oxygen-hemoglobin dissociation curve; as a result, tissue hypoxia, cyanosis, and lactic acid production may occur. These conditions may exist in the face of reasonable arterial oxygen concentrations.

Drugs causing methemoglobinemia do so by markedly increasing the rate of formation of methemoglobin by oxidizing hemoglobin to methemoglobin,[6] so that the major pathway for methemoglobin reduction is overwhelmed.

Methemoglobinemia should be considered in the differential diagnosis in any patient with cyanosis unresponsive to oxygen therapy. The chocolate-brown appearance of the patient's blood on filter paper also supports the diagnosis.[6] Prompt blood gas analysis showing a methemoglobin level greater than 1% is confirmatory.

Treatment of severe (hypoxic) methemoglobinemia, in addition to removing the toxin and employing supportive care, consists of administration of high-flow oxygen and intravenous methylene blue (tetramethylthionine). The usually minimal reduction of methemoglobin by NADPH diaphorase is accelerated by the presence of methemoglobin,[6] and administration of methylene blue further accelerates the process several-fold. Methylene blue is reduced by NADPH to leukomethylene blue, which in turn reduces methemoglobin to hemoglobin nonenzymatically.[5, 6] The dosage is 1 to 2 mg/kg (0.1-0.2 ml/kg of a 1% solution) over five minutes.[1, 3, 6] In severe cases, the dose may be repeated, but the total dose should not exceed 4 mg/kg of body weight.[6] Response usually occurs within 30-60 minutes after administration; measurement of methemoglobin levels may be repeated at this time. Methemoglobin is reported to have a half-life of 55 minutes.[3]

Toxic reactions to large intravenous doses of methylene blue include blue-green discoloration of urine, abdominal pain, precordial pain, confusion, dyspnea, headache, hypertension, nausea, vomiting, restlessness, apprehension, dizziness, tremors, sweating, sense of oppression, and precipitation of hemolytic anemia in patients with G_6PD deficiency. Ironically, methemoglobinemia (due to oxidizing potential with larger doses than those recommended) may also be seen.[1, 8] A lack of response to methylene blue therapy within 30-60 minutes may indicate the possibility of G_6PD deficiency.

Methylene blue should not be routinely administered; many patients without anemia may tolerate methemoglobin levels of 30%.[5] Relevant clinical and laboratory information must be considered in planning initial and repeated doses, including degree of hypoxia, clinical tolerance, methemoglobin levels, concomitant disease states, and so on.

Other modes of management include administration of ascorbic acid, which is not very effective,[5, 6] and use of hyperbaric oxygen, which is not known to be effective.[5] Exchange transfusions may be efficacious in reducing methemoglobin levels rapidly, and may remove some of the toxin causing the methemoglobinemia.[6]

Many commonly used drugs and other agents can cause methemoglobinemia. In this patient, we suspect methemoglobinemia was precipitated by the prebronchoscopic use of benzocaine or lidocaine.

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Juvenile Polyposis

Not Always a Benign, Self-Limiting Disease

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St. Louis, Missouri

Multiple juvenile polyposis, considered benign, can nonetheless be the cause of anemia and malnutrition. A case is presented, with discussion on the tendency of affected colons to later develop malignancy.

A juvenile polyp[1, 2] is a non-neoplastic polyp composed of epithelium that is often disorganized, with cystic dilation of glandular structures and fibroblastic stroma containing inflammatory cells. Most consider it a hamartomatous lesion. Although juvenile polyposis is considered a benign condition, there is a subgroup of patients with the same histologic findings who have multiple polyposis coli and an unclear heredity.[2, 3] Some of the patients suffer from malnutrition, with anemia and hypoalbuminemia.[4-6] Although the condition is benign, some authors have reported an increased risk of cancer of the large bowel in these patients and their relatives.[7-9] This raises the question of whether a preventive colectomy should be performed, as it is in familial polyposis.

We present the case of a 16-year-old girl with multiple juvenile polyps of the colon who suffered from severe malnutrition, hypoalbuminemia and chronic anemia. She was treated successfully by rectal polypectomy and an extended right colectomy.

Case Report

A 16-year-old girl was admitted to the Jewish Hospital of St. Louis in April, 1985, suffering from bloody diarrhea and weakness. She was found to have anemia and hypoalbuminemia. She had been ill for three years prior to her hospitalization. There was no abnormal pigmentation in the skin or the mucous membranes. She gave a history of having had the polyps prolapse through the rectum during bowel movements. There was no family history of tumors or polyps of the colon. On examination she appeared undernourished and pale. Smooth, soft rectal polyps were palpated on rectal examination. The hemoglobin level was 7.7 gm%, the hematocrit 25.7%, and the serum protein level was 4.7 gm/ml with an albumin of 2.3 gm/ml. An upper gastrointestinal study revealed normal results. A barium enema x-ray examination revealed a multitude of polyps in the right colon and rectum. These findings were verified on colonoscopy, at which time a biopsy was performed. Histological examination revealed a typical juvenile polyp (Fig 1). The patient received blood transfusions and was placed on total parenteral nutrition. After four weeks of treatment, her hemoglobin level was 11.9 gm% and the albumin level was 3.5 gm/ml. In order to preserve the rectum, transanal excision of the majority of the rectal polyps was undertaken. The rectal disease was well controlled by this method. Two weeks later, she underwent an extended right colectomy with an ileal-transverse colon anastomosis. The polyps were pedunculated and ranged in size from 3 mm to 3 cm. The residual colon, as well as the

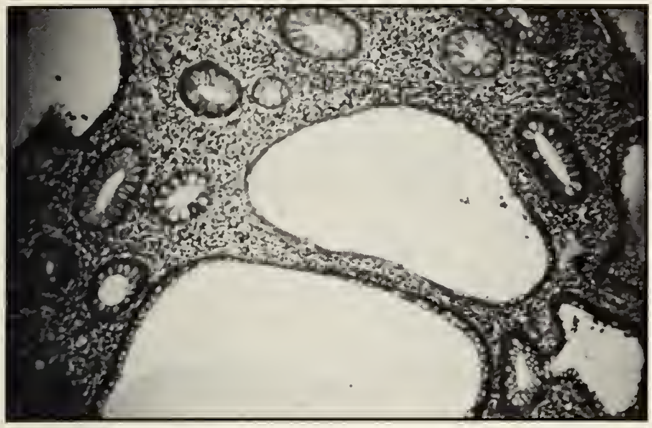

Fig 1. Photomicrograph of a juvenile polyp, showing several dilated glands with fibroblastic stroma containing inflammatory cells.

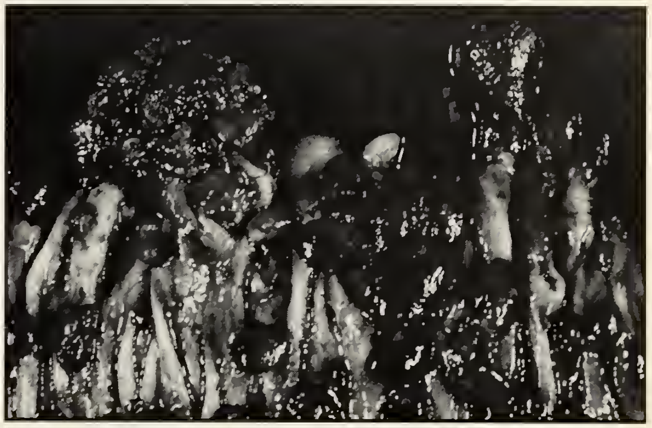

Fig 2. Specimen showing numerous polyps of the right colon.

rectum, were found to be relatively free of polyps. Examination of the resected surgical specimen revealed hundreds of polyps, which proved to be juvenile polyps on histological evaluation (Fig 2). The patient recovered from the operation without complications and has since been observed as an outpatient. Subsequent proctoscopic and colonoscopic examinations have revealed her to be free of disease. In the interim, her parents have undergone colonoscopic examinations and found to be free of polyps. However, the patient's older brother has been found to have multiple juvenile polyps and is undergoing repeated colonoscopic removal of the polyps.

Discussion

Juvenile polyps are composed of disorganized epithelium with cystic dilation of glandular structures and fibroblastic stroma containing inflammatory cells. Most authorities consider the polyps to be hamartomas,[4, 10] although some have defined them as inflammatory.[11, 12] In most cases these polyps appear in children ages 1-10 years, are solitary, tend to bleed, and when not excised, are self-limited by autoamputation. A poorly understood form of the disease is the rare condition of multiple juvenile polyposis. Histologically, the polyps are indistinguishable from the more common variety. This classification might well include more than one disease form. The polyps can appear in infancy or early adulthood, may be distributed throughout the gastrointestinal tract (generalized juvenile polyposis), or limited to the colon (juvenile polyposis coli).[4] The disease may appear at random or follow an autosomal dominant familial pattern.[4] Some of the polyps have been shown to undergo adenomatous changes.[13] When the disease manifests itself in older childhood or young adulthood, it may well be part of the general polyposis spectrum. Goodman et al[14] described a nonfamilial case of multiple juvenile polyposis in which they speculated on a transformation from hyperplastic, to juvenile, to adenomatous polyps, and finally to cancer. Patients with multiple colonic juvenile polyps may suffer from severe clinical manifestations such as bleeding with chronic anemia, malnutrition hypoalbuminemia, and intussusception.

Some of the affected families had associated gastrointestinal malignancies that occurred either in patients with polyps or in their relatives. Stemper[7] reported one family in which 10 members had single or multiple juvenile polyps of the stomach and large intestine, and 11 others had gastrointestinal carcinomas. Smilow[15] reported one family in which three members had had juvenile polyposis coli, and one of them had an adenocarcinoma of the colon.

Reports in the current literature do not make it clear as to what the best surgical approach to these patients should be. Rozen and Baratz[8] described a family in which the mother underwent excision of juvenile polyps and later developed cancer of the colon. Her son, who suffered from multiple juvenile polyps, then underwent prophylactic subtotal colectomy, although there was no histologic evidence of concomitant adenomatous polyps. Yoshida et al[6] described a 13-year-old girl with multiple juvenile polyposis of the rectum and right colon who underwent a right colectomy and a modified Soave's proctectomy. On the other hand, Gourley et al[5] described a girl with 12 juvenile polyps, which caused a protein-loosing enteropathy, who was treated successfully by polypectomy only (follow-up was only two months).

Electron microscopic studies of the surgical specimen in our case revealed general involvement of the colonic stroma with dysplasia that had no spatial relationship to the polyps. Of great concern is the possibility that these colons harbor the tendency for malignancy. Such a tendency might justify a preventive colectomy. If colectomy is considered, we think these patients could well be treated by the new procedure of proctocolectomy with ileal anal pull-through and pouch, as for familial polyposis.

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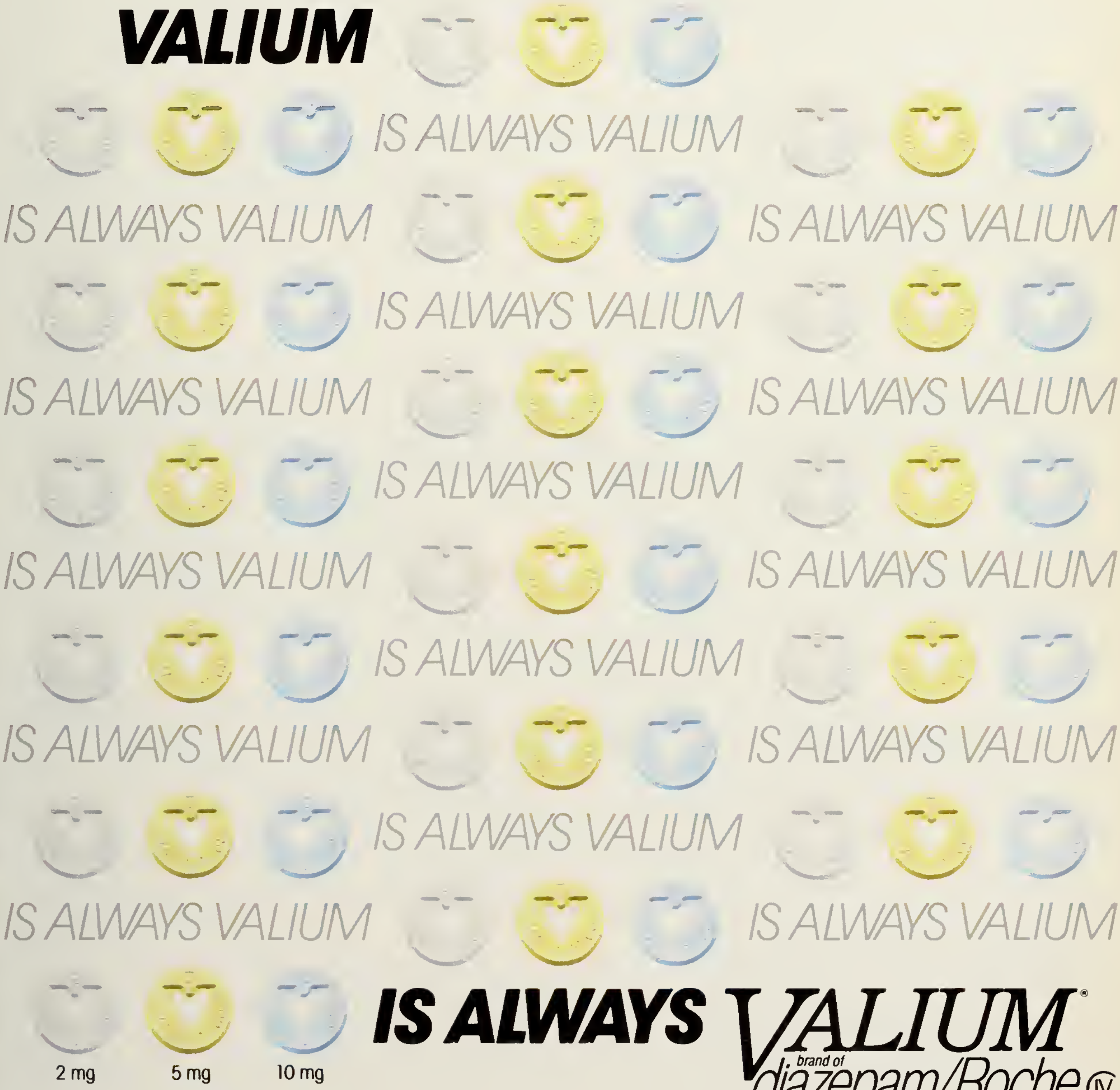
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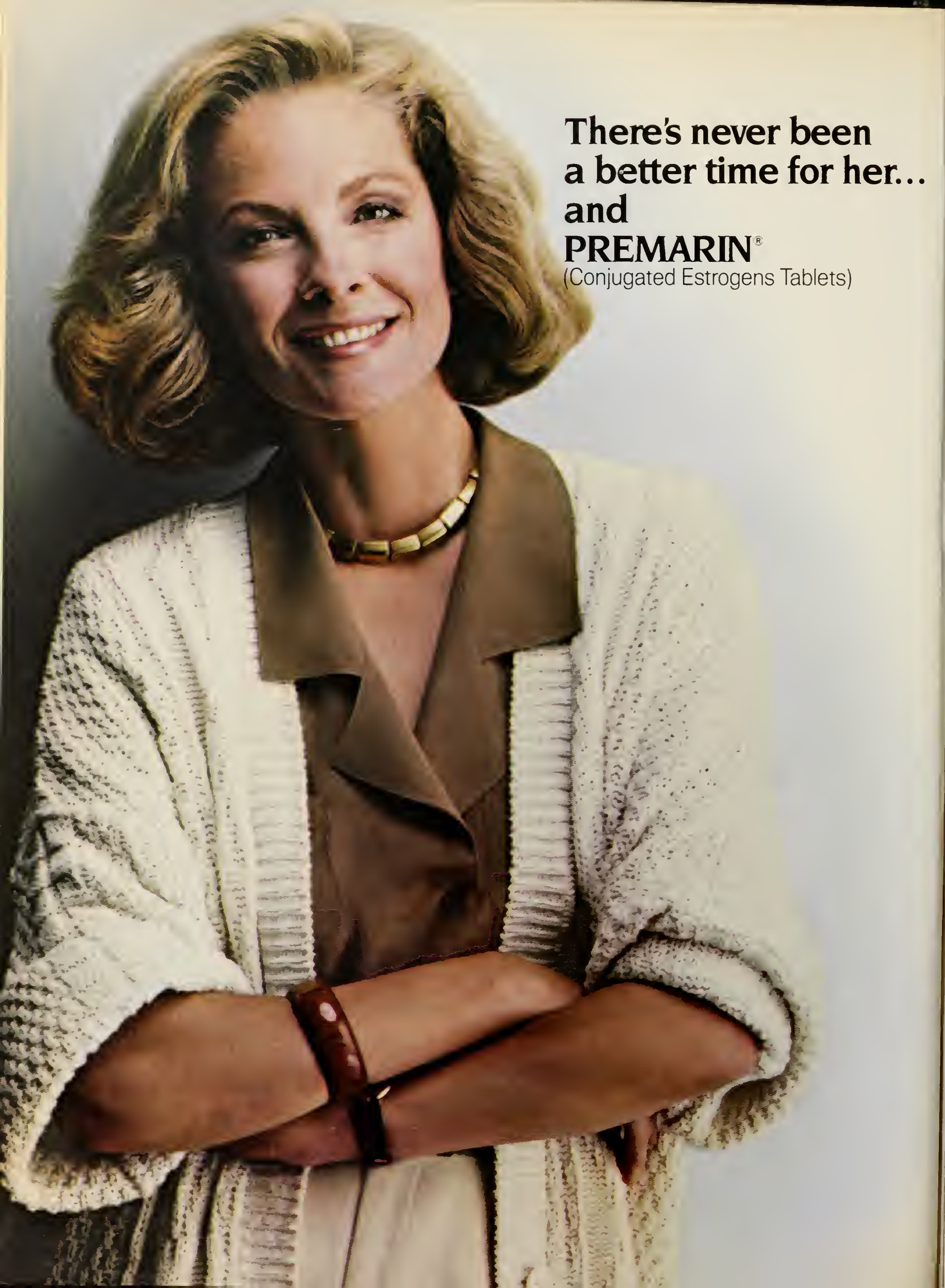
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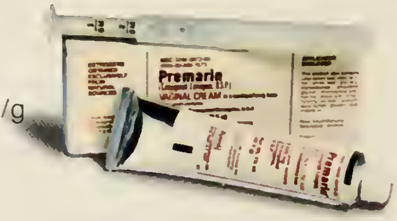

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION. SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1 ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4 5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses

2 ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare This risk has been estimated as not greater than 4 per 1,000 exposures Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix Although these changes are histologically benign, it is not known whether they are precursors of malignancy Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0 625 mg, 0 9 mg, 1 25 mg, and 2 5 mg strengths of conjugated estrogens. Cream is available as 0 625 mg conjugated estrogens per gram

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets. USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis Kraurosis vulvae Female castration

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING)

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens (See PRECAUTIONS) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions 1 Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease 2 Known or suspected estrogen-dependent neoplasia 3 Known or suspected pregnancy (See Boxed Warning). 4 Undiagnosed abnormal genital bleeding 5 Active thrombophlebitis or thromboembolic disorders. 6 A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans (See Boxed Warning) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke and myocardial infarction Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use They should be used with caution in patients with cerebral vascular or coronary artery disease Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives For this reason, diabetic patients should be carefully observed Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients Oral contraceptives appear to be associated with an increased incidence of mental depression Patients with a history of depression should be carefully observed Preexisting uterine leiomyomata may increase in size during estrogen use The pathologist should be advised of estrogen therapy when relevant specimens are submitted If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism

The following changes may be expected with larger doses of estrogen.

a Increased sulfobromophthalein retention

b Increased prothrombin and factors VII, VIII, IX, and X, decreased antithrombin 3, increased norepinephrine-induced platelet aggregability

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay Free T3 resin uptake is decreased, reflecting the elevated TBG, free T4 concentration is unaltered

d Impaired glucose tolerance

e Decreased pregnanediol excretion

f. Reduced response to metyrapone test

g Reduced serum folate concentration

h. Increased serum triglyceride and phospholipid concentration As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives, breakthrough bleeding, spotting, change in menstrual flow, dysmenorrhea; premenstrual-like syndrome, amenorrhea during and after treatment; increase in size of uterine fibromyomata, vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme, erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight, reduced carbohydrate tolerance, aggravation of porphyria, edema, changes in libido

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0 3 to 1 25 mg or more daily) The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible Administration should be cyclic (eg. three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals

2 *Given cyclically*: Female castration Osteoporosis. Female castration—1.25 mg daily, cyclically Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control Osteoporosis —0 625 mg daily. Administration should be cyclic (eg. three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use *only.* For treatment of atrophic vaginitis or kraurosis vulvae

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible

Administration should be cyclic (eg. three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals

Usual dosage range 2 to 4 g daily, intravaginally, depending on the severity of the condition

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric *Br Med J* 1980;280 822-824 **3.** Magos AL, Brincat M Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women *Obstet Gynecol* 1985, 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52 **5.** Barnes RB, Roy S, Lobo RA Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women *Obstet Gynecol* 1985,66 216-219

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Medical School News

The University of Missouri-Columbia

- **Philip Anderson, M.D.**, professor and director of dermatology, has been chosen to serve on the local Advisory Board of the University of Missouri-Columbia's Science Journalism Center. The Board of scientists and educators will advise the Center as it seeks to assist reporters nationwide in their science reporting.

- **Bernard Beitman, M.D.**, associate professor of psychiatry, has written a book, *The Structure of Individual Psychotherapy* published by Guilford Publications, Inc. of New York. The book discusses major individual psychotherapy theories and techniques.

- **Gordon Brown, Ph.D.**, professor and director of health services management, was recently appointed chairman of the professional certification committee of the American College of Health Care Administrators.

- **William Davis, M.D.**, professor and chief of otolaryngology, has been appointed to the American Academy of Otolaryngology's manpower committee. This committee reviews the supply of otolaryngologists and other medical specialties relative to the practice of otolaryngology.

- **Dale Everett, M.D.**, professor and director of infectious diseases division, has received a $54,000 grant from the Upjohn Company to study cefmetazole, a new antibiotic, in respiratory infections.

- **Armando Favazza, M.D.**, professor and associate chairman of psychiatry, has been selected to the American College of Psychiatrists' Committee on Publications. An expert in social and cultural psychiatry, he has written four books and is an editorial referee for professional journals.

- **Richard Finkelstein, Ph.D.**, Millsap Distinguished Professor and chairman of microbiology, has received a five-year continuation grant of $662,153 from the National Institutes of Health for his cholera research.

- **Margaret Flynn, Ph.D.**, nutritionist and professor of family and community medicine, has received nationwide attention for her latest research which shows that most people's bodies will adjust to a higher intake of cholesterol even if the person is eating three eggs a day for an extended period of time. Her research, originally published in the *Journal of the American Dietetic Association*, has been reported on "CNN Cable News," "the Today Show," "ABC This Morning News," "ABC Information Radio," "Paul Harvey" and UPI news. Print coverage has included *The Kansas City Star, The Baltimore Evening Sun*, and *The Boston Herald*.

- **Herbert S. Goldberg, Ph.D.**, professor of microbiology, organized the biannual meeting of the International Committee on Systemic Bacteriology: Subcommittee on Gram Negative Anaerobic Rods. Members from the United States, England, France, Germany, Japan, Norway and Rumania make up the subcommittee. Dr. Goldberg also attended the 14th International Congress of Microbiology in England last Fall.

- **Javad Kashani, M.D.**, professor of psychiatry and **William Holcomb, Ph.D.**, clinical assistant professor of psychiatry co-wrote "Depression and Depressive Symptoms in Preschool Children from the General Population," which was published last Fall in the *American Journal of Psychiatry*. The American Psychiatric Association issued a national news release on the article and it was featured in a special column of the *Journal of the American Medical Association*.

- **Gary Kraus, Ph.D.**, adjunct associate professor of health services management, recently received an award of appreciation from the Missouri Society of Hospital Attorneys for four years of service on its board of directors. Dr. Kraus was also invited to present "A Model for Alternative Dispute Resolution for Health Care Organizations" at last year's International Conference for Law and Ethics in Australia.

- **J. Ricardo Martinez, M.D.**, professor of child health and physiology, has been invited to participate in an International Conference on Cellular and Molecular Basis of Cystic Fibrosis in Verona, Italy, later this year. He has also been appointed to a committee organizing a secretion symposium that will be held as part of the 10th International Congress of Cystic Fibrosis, planned for March 1988 in Australia.

- **Michael Misfeldt, Ph.D.**, assistant professor of microbiology, recently received a $413,387, five-year continuation grant from the National Institutes of Health to study the bacterial effects on the immune system.

- **Lothar Sievers, M.D.**, assistant in the Anatomy Institute at the University of Wurzburg, Germany, has joined the department of anatomy as a research fellow for one year. As a well-established investigator of neuroendocrinology, Dr. Sievers will work with **Willis K. Paull, Ph.D.**, professor and chairman of anatomy, on an NIH-funded research project studying the hypothalamic-releasing factors which regulate an organism's response to stress.

- **Hugh Stephenson Jr., M.D.**, professor of surgery and chief of staff of University Hospital and Clinics, was the moderator of a one-day program on cardiac resuscitation at the Institute of Resuscitation last fall in Moscow. He also talked on cardiac resuscitation and the present role of the open chest resuscital auto internal defibrillator at the worldwide meeting that was held in celebration of the 50th anniversary of the institute.

- **Sara Walker, M.D.**, professor of medicine, recently received a $1,000 research donation from the Kansas City Chapter of the Lupus Foundation of America, Inc. to further her lupus research.

- **John Yarbro, M.D.**, professor of medicine, has been awarded a Fulbright Scholarship to lecture in Uruguay during the 1987-88 academic year. Dr. Yarbro was selected from more than 3300 professionals competing for approximately 1000 Fulbright positions. As a representative of the American people in Uruguay, Dr. Yarbro will help fulfill the purpose of the Fulbright Program to promote better mutual understanding among the people of the world.

University of Missouri-Kansas City

- **Margaret E. Mahoney**, President of The Commonwealth Fund, a New York-based foundation, will highlight commencement activities at UMKC School of Medicine as the sixth **Carl Migliazzo Memorial Lecturer.** Miss Mahoney has devoted more than 30 years of work with philanthropies on issues of public policy in health, education, and the arts and humanities. As president of The Commonwealth Fund, she has forwarded the foundation's primary mission of improving the health care of Americans. Prior to that, she served for eight years as Vice President of The Robert Wood Johnson Foundation, and from 1953-1972, was with the Carnegie Corporation of New York. Miss Mahoney is a member of a number of institutions, including the Institute of Medicine, New York Academy of Medicine, Council on Foreign Relations, and Alpha Omega Alpha. She will speak at noon on commencement day, May 29.

- Strong participation in UMKC School of Medicine's first student/faculty Research Day March 21 set a favorable precedent for future events. Faculty members' poster sessions were displayed and students made oral presentations in a competitive event. In addition to the variety of disciplines and topics represented in these presentations, **Marino Martinez-Carrion, Ph.D.**, Dean of the UMKC's recently formed School of Basic Life Sciences, was keynote speaker. Dean Martinez spoke on his area of research in Biochemistry.

- Several distinguished guest speakers have lectured at UMKC School of Medicine. Among them are **Colin Jordan, M.D.**, director of the Division of Infectious Diseases at the University of Minnesota Hospitals, who on Feb. 13 presented the third annual **Thomas Mahvi Memorial Lecture.** Dr. Mahvi was former director of Microbiology at Truman Medical Center. After his untimely death in the Hyatt Hotel disaster, the School established the lectureship in the field of Microbiology and Infectious Diseases. Dr. Jordan spoke on "CMV Disease: New Aspects of Epidemiology and Pathogenesis."

Doris Bartuska, M.D., national president-elect of the American Medical Women's Association and professor at the Medical College of Pennsylvania, presented "Endocrinology of Aging" Feb. 27. She was also honored at a reception and luncheon that day, in addition to accompanying students on rounds.

- **James Daniel Henry Reynolds, Jr., M.D.**, clinical associate professor of Medicine at UMKC and director of training in Gastroenterology at St. Luke's Hospital, and his wife died Jan. 31 in a plane crash in southeastern Colorado. Dr. Reynolds was a University of Kansas Medical School graduate. He was a diplomate of the American Society of Internal Medicine and the American College of Gastroenterology.

- The newest clinical medical librarian at UMKC School of Medicine arrived Jan. 21 from Shanghai, China, to spend six months learning all phases of operation of the Health Sciences Library. **"Bill" Shen Wen-zao, M.D.**, is from the Shanghai Second Medical College, a sister school to UMKC.

- The Year of the Rabbit was rung in Jan. 31 with the second annual Chinese New Year Party, sponsored by the Edgar Snow Memorial Fund, Inc. About 300 people attended the event, held at the home of School of Medicine provost emeritus **E. Grey Dimond, M.D.**, who is also president and chairman of the Board of the Snow Fund. Among the guests were about 100 Chinese scholars from Midwestern universities, including UMKC, other students, UMKC faculty members and administrators, and various contributors to the Snow Fund.

- Students at UMKC School of Medicine celebrated their annual Snow Ball Feb. 21 at the Kansas City Club. The annual event has proven to be a popular one, with a good turnout of students, faculty members and administrators each year.

St. Louis University

- The fourth annual **J. Gerard Mudd, M.D., Lecture** was presented on January 30 at St. Louis University Medical Center. **Myron L. Weisfeldt, M.D.**, director of the division of cardiology and professor of medicine at Johns Hopkins University, delivered the lecture.

Dr. Weisfeldt's presentation explored new approaches to cardiopulmonary resuscitation. He has spent more than 10 years studying the procedure to improve techniques and set standards. Dr. Weisfeldt also helped develop mechanical techniques of CPR.

As well as being director of the division of cardiology, Dr. Weisfeldt is also the Robert L. Levy Professor of Cardiology at Johns Hopkins University. He has published more than 300 articles and abstracts and has held more than 30 visiting professorships and lectureships.

The annual Mudd lecture commemorates Dr. Mudd's contribution in establishing the cardiac catheterization laboratory at The University Hospital. Dr. Mudd is presently director of the laboratory and professor of internal medicine at St. Louis University School of Medicine.

- The National Cancer Institute has awarded a three-year, $397,987 grant to **Thomas S. Ruh, Ph.D.**, and **Mary F. Ruh, Ph.D.**, both professors of physiology at St. Louis University School of Medicine. The Drs. Ruh, a husband and wife research team, will examine the action of antiestrogen drugs on breast cancer cells.

The Drs. Ruh have collaborated in the past on studies of antiestrogens and have pioneered the study of how these drugs affect cancer. Both physiologists earned their doctoral degrees from Marquette University in Wisconsin and did postdoctoral work at the University of Illinois in Urbana. They both joined the faculty at St. Louis University in 1971.

- The St. Louis Charitable Foundation has given $35,000 to physicians at St. Louis University Medical Center to fund two research projects in the neurosurgery division. The first is a study of brain tumors, and the second will examine clinical applications of chemotherapy in brain cancer. **Kenneth Smith, M.D.**, professor and chief of neurosurery, and **David Crafts, M.D.**, associate professor in neurosurgery, will oversee the two projects.

Washington University

- Nine faculty members from Washington University School of Medicine in St. Louis will travel to Japan April 13-15 to inaugurate a rare exchange program between researchers at Washington University and at RIKEN, one of Japan's preeminent government-sponsored research institutions.

Washington University is the first American university to form such an exchange agreement with a Japanese research institute. In 1986 the Japanese government established a similar international exchange program between RIKEN and the Pasteur Institute in Paris.

The Washington University agreement is with the Tsukuby Life Science Center of RIKEN, which traditionally has conducted chemical and physical research but has expanded its scope to include biological studies. The exchange program is designed not only to foster collaboration in research, but also to encourage scientists to share techniques and teaching skills, both in joint meetings and by exchange visits.

"Many laboratories at our medical school and throughout the United States have benefited enormously from the work of Japanese colleagues," says **David Schlessinger, Ph.D.**, who has helped arrange discussions for the exchange program. "Very few Americans, though, have had the benefit of a period of work at a strong Japanese laboratory, and true American-Japanese research collaborations have been relatively infrequent.

"This agreement provides a mechanism for a real exchange program, and is a spearhead for what can become an increasingly fruitful interaction. We are delighted to have Washington University as the first American institution designated for such a relationship."

The April 13-15 opening symposium in Tokyo is one of two inaugural events; next spring, Japanese scientists will attend a sister symposium at Washington University. At the Tokyo symposium, researchers from RIKEN and Washington University will deliver scientific presentations on control of cellular interactions, with special emphasis on the immune system and growth regulation of cells. The meeting will be open to the public, and is expected to draw its audience from both industrial and university laboratories.

Faculty members who will represent Washington University School of Medicine in Japan include **Harvey R. Colten, M.D., Harriet B. Spoehrer**, Professor and head of pediatrics; **Joseph M. Davie, M.D., Ph.D.**, professor and head of microbiology and immunology; **Thomas F. Deuel, M.D.**, professor of biological chemistry and medicine; **Elliot L. Elson, Ph.D.**, professor of biological chemistry; and **Eugene M. Johnson, Jr., Ph.D.**, professor of pharmacology.

Others to speak at the symposium are **William H. Daughaday, M.D., Irene F.** and **Michael M. Karl**, Professor of Endocrinology and Metabolism in Medicine; **Philip Needleman, Ph.D.**, Alumni Professor and head of pharmacology; **Carl W. Pierce, M.D., Ph.D., Wilma** and **Roswell Messing**, Professor of pathology and professor of microbiology and immunology; and **David Schlessinger, Ph.D.**, professor of microbiology and immunology and medicine.

Arrangements for the exchange program were made by Schlessinger and Davie, with Y. Ikawa, M.D., Ph.D., and F. Imamoto, Ph.D., of RIKEN.

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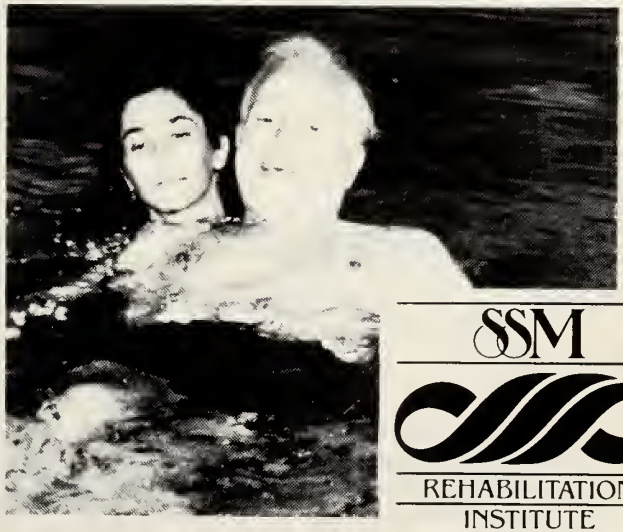

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New Members

■ **Nancy Birenboim, M.D.**, 1734 East 63rd, Kansas City 64110, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Birenboim received her preliminary education at University of California-Berkley and obtained her medical degree at the University of Kansas in 1981. She completed her residency at Kansas University Medical Center, Kansas City, KS. She specializes in nephrology.

■ **Roger K. Cady, M.D.**, 3525 S. National, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Cady received his preliminary education at Drake University and obtained his medical degree at Mayo Medical School-Rochester in 1977. He completed his residency at Mayo/St. Frances Family Practice, La Crosse, WI. He specializes in family practice.

■ **Richard R. Christy, M.D.**, 1965 Fremont Ave., Suite 2650, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Christy received his preliminary education at the University of Kansas and obtained his medical degree at the University of Kansas in 1982. He completed his residency at the Menninger Foundation. He specializes in psychiatry.

■ **Don M. Delwood, M.D.**, University of Missouri Hospital & Clinics, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Delwood received his preliminary education at the University of Houston and obtained his medical degree at the University of Texas Health Science Center in 1981. He completed his residency at the University of Missouri Hospital & Clinics, Columbia, MO. He specializes in internal medicine.

■ **Samuel E. Golden, M.D.**, 1965 Fremont, Suite 340, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Golden received his preliminary education at the University of Michigan and obtained his medical degree at Southern Illinois University in 1981. He completed his residency at Phoenix Hospital Affiliated Pediatrics Program, Phoenix, AZ. He specializes in pediatrics.

■ **Mala R. Gupta, M.D.**, Trinity Lutheran Hospital, Kansas City 64108, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Gupta received her preliminary education at the University of Missouri-Kansas City and obtained her medical degree at UMKC in 1981. She completed her residency at the Medical College of Virginia, Richmond, VA. She specializes in internal medicine.

■ **Clarke L. Henry, Jr., M.D.**, 4320 Wornall Road, #344, Kansas City 64111, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Henry received his preliminary education at Stanford University and obtained his medical degree at the University of Kansas Medical Center in 1978. He completed his residency at Vanderbilt University Hospital, Nashville, TN. He specializes in cardiovascular/thoracic surgery.

■ **Yolanda J. F. Huet-Vaughn, M.D.**, Research Independence Health Center, Independence 64057, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Huet-Vaughn received her preliminary education at Vanderbilt University and obtained her medical degree at Meharry Medical College in 1979. She completed her residency at Truman Medical Center East, Kansas City, MO. She specializes in family practice.

■ **Ira S. Landsman, M.D.**, Children's Mercy Hospital, Kansas City 64112, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Landsman received his preliminary education at the State University of New York at Binghamton and obtained his medical degree at SUNY at Buffalo in 1979. He completed his residency at Children's Hospital at Buffalo, Buffalo, NY. He specializes in pediatrics.

■ **Earlene H. McMurray, M.D.**, 6420 Prospect, Suite T513, Kansas City 64132, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. McMurray received her preliminary education at the University of New Mexico and obtained her medical degree at the University of New Mexico in 1982. She completed her residency at Barnes Hospital, St. Louis, MO. She specializes in radiation oncology.

■ **Ramon L. Nichols, M.D.**, 4900 Swope Parkway, Kansas City 64130, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Nichols received his preliminary education at the University of Missouri-Kansas City and obtained his medical degree at Meharry Medical College in 1982. He completed his residency at St. Luke's Hospital, Kansas City, MO. He specializes in internal medicine.

■ **Gale B. Oleson, M.D.**, 17421 Medical Center Parkway, Independence 64057, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Oleson received his preliminary education at the University of Nebraska and obtained his medical degree at the University of Nebraska Medical Center in 1982. He completed his residency at the Mayo Clinic, Rochester, MN. He specializes in dermatology.

■ **Raman J. Patel, M.D.**, 1812 Buckingham, St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Patel received his preliminary education at the M.S. University of Baroda and obtained his medical degree at the M.S. University of Baroda Medical College in 1965. He completed his residency at Jewish Hospital, Cincinnati, OH. He specializes in emergency medicine.

■ **Floyd A. Santner, M.D.**, 225 W. Hayden, Marceline 64658, has become a member of the Grand River Medical Society. Dr. Santner received his preliminary education at the University of Kansas and obtained his medical degree at the University of Kansas in 1947. He completed his residency in the U.S. Navy. He specializes in family practice and obstetrics.

■ **James M. Sauer, M.D.**, 1675 JC Seminale, Springfield 65806, has become a member of the Greene County Medical Society. Dr. Sauer received his preliminary education at Southwestern Oklahoma State University and obtained his medical degree at the University of Oklahoma College of Medicine in 1978. He completed his residency at Hartford Hospital, Hartford, CT. He specializes in diagnostic radiology.

■ **Surjit Singh, M.D.**, Fulton State Hospital, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Singh received his preliminary education at DAV College-Abohar, India and obtained his medical degree at Amritsar Medical College-India in 1975. He is completing his residency at the Creighton School of Medicine, Omaha, NE. He specializes in psychiatry.

■ **Sharon R. Snavely, M.D.**, 6724 Troost, Kansas City 64131, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Snavely received her preliminary education at the University of Indiana and obtained her medical degree at the University of Kansas School of Medicine in 1978. She completed her residency at the University of Kansas Medical School, Kansas City, MO. She specializes in internal medicine.

■ **John A. Sullivan, M.D.**, 1443 N. Robberson, Suite 208, Springfield 65802, has become a member of the Greene County Medical Society. Dr. Sullivan received his preliminary education at the University of Arkansas and obtained his medical degree at the University of Arkansas for Medical Sciences in 1982. He completed his residency at the University of Arkansas for Medical Sciences, Little Rock, AR. He specializes in diagnostic radiology.

■ **Scott W. Thompson, M.D.**, 2900 Baltimore, Suite 400, Kansas City 64108, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Thompson received his preliminary education at the University of Kansas and obtained his medical degree at the Autonomous University of Guadalajara in 1978. He completed his residency at St. Francis Regional Medical Center, Wichita, KS. He specializes in family practice.

■ **Joel E. Waxman, M.D.**, 3231 S. National, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Waxman received his preliminary education at the University of Kansas and obtained his medical degree at the University of Kansas School of Medicine in 1979. He completed his residency at the Washington University School of Medicine, St. Louis, MO. He specializes in otolaryngology.

■ **Charles E. Wood, M.D.**, HCR 1, Box 169, Hollister 65616, has become a member of the Tri-Lakes Medical Society. Dr. Wood received his preliminary education at Phillips University and obtained his medical degree at Colorado University School of Medicine in 1963. He completed his residency at Denver General Hospital, Denver, CO. He specializes in obstetrics/gynecology.

■ New Student Members

University of Missouri-Kansas City

Melissa R. Dana
Thomas M. Stanfield

St. Louis University

Elizabeth Engel
Phillip K. Kay

Physician's Recognition Awards

Thirty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during January 1987. The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

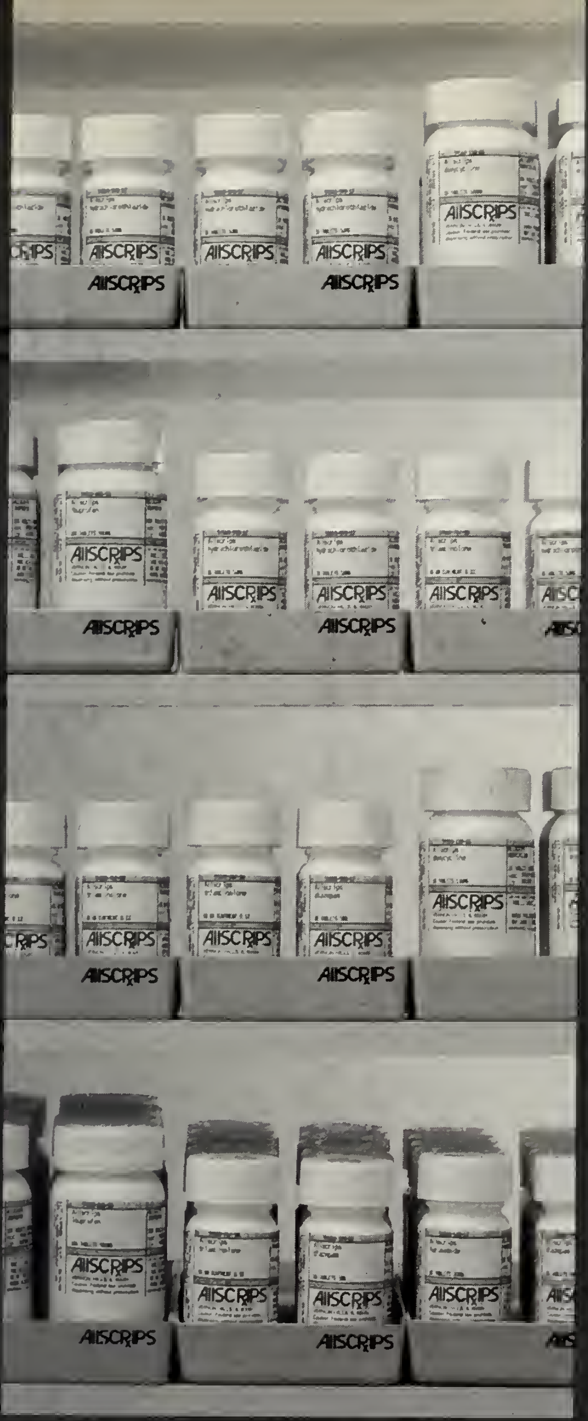
Boone
David K. Dueker, *Columbia*
Gregory J. Renner, *Columbia*
Buchanan
Wallace McDonald, *St. Joseph*
Cape Girardeau
William G. Marietta, *Cape Girardeau*
Greene
Kenneth D. Piker, *Springfield*
John E. Wolfe, *Springfield*
Jackson
Mohammed E. Ali, *Lee's Summit*
Richard E. Baska, *Kansas City*
Antoni M. Diehl, *Kansas City*
Calvin E. Engelmann, *Kansas City*
James K. Fisher, *Kansas City*
Lees C. Forsythe, *Kansas City*
Robert T. Hall, *Kansas City*
Robert W. Hamill, *Kansas City*
Marius M. Hubbell, *Kansas City*
Pierre W. Keitges, *Kansas City*
Raymond W. Latham, *Kansas City*
Robert J. Meegan, *Kansas City*
Rita D. Perll, *Kansas City*
Matthew C. Ziemianski, *Kansas City*

Jasper
Ramona M. Chapman, *Joplin*
William H. Crosby, *Joplin*
Jim D. Frogge, *Joplin*

Pettis
Rodney C. Hartman, *Sedalia*

Saline
Rashid S. Hamid, *Marshall*

St. Louis
Richard V. Bradley, *St. Louis*
Thomas F. Egan, *St. Louis*
Sharon A. Godar, *Chesterfield*
Jack Hartstein, *Chesterfield*
Stanley W. Kim, *St. Louis*
Arnoldo Kuczer, *Chesterfield*
Gary H. Myers, *Chesterfield*
Loi D. Nguyen, *Ellisville*
Alejandro C. Ojascastro, *St. Louis*
George M. Tanaka, *St. Louis*
Victoria W. Vitale, *St. Louis*
Charles J. Willey, *St. Louis*
Mardonio J. Yap, *Florissant*



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In Memoriam

- **Charles R. Gulick, M.D.**, died January 18, 1987 at the age of 68. Dr. Gulick, an obstetrician/gynecologist, practiced medicine in St. Louis. He obtained his medical degree at the St. Louis University School of Medicine in 1943. Dr. Gulick was a member of the St. Louis Metropolitan Medical Society.

- **Frances Stewart Furlong, M.D.**, died January 19, 1987 at the age of 82. Dr. Furlong, an obstetrician/gynecologist, practiced medicine in St. Louis for many years before retiring in 1977. She obtained her medical degree at the Washington University School of Medicine in 1927. She taught family planning and was director of Planned Parenthood. Dr. Stewart was a member of the St. Louis Metropolitan Medical Society.

- **John P. Hickcox, M.D.**, died January 22, 1987 at the age of 58. Dr. Hickcox, an orthopaedic surgeon, also received a degree in veterinary medicine from the University of Missouri in 1954. A member of the Columbia Orthopaedic Group since 1972, he graduated from the University of Missouri School of Medicine in 1967. Dr. Hickcox was a member of Boone County Medical Society.

- **Cameron F. Marshall, M.D.**, died in February 1987 at the age of 84. Dr. Marshall, an obstetrician/gynecologist, practiced medicine in Emporia, Kansas. He obtained his medical degree at the University of Kansas Medical Center in 1937. Dr. Marshall was a member of the Metropolitan Medical Society of Greater Kansas City.

- **Clint L. Miller, M.D.**, died February 4, 1987 at the age of 82. Dr. Miller, a family physician, served in the Army Medical Corps during World War II, before returning to Missouri in 1946 to form the Lee's Summit Clinic. He retired in 1983. Dr. Miller graduated from the University of Missouri-Columbia and obtained his medical degree at Northwestern University in 1932. Dr. Miller was a member of the Metropolitan Medical Society of Greater Kansas City.

- **George F. Rendleman, Sr., M.D.**, died January 10, 1987 at the age of 98. Dr. Rendleman, a general surgeon, practiced medicine in St. Louis. He obtained his medical degree at Northwestern University in 1915. Dr. Rendleman was a member of the St. Louis Metropolitan Medical Society.

- **James D. Reynolds, Jr., M.D.**, died January 31, 1987 in a plane crash at the age of 45. Dr. Reynolds, a gastroenterologist, practiced medicine in Overland Park, Kansas, but made weekly flights to small Kansas and Missouri hospitals to treat special cases. He was an associate professor of medicine at UMKC and was director of training in gastroenterology at St. Luke's Hospital. He graduated from Washburn University and obtained his medical degree at the University of Kansas in 1968. Dr. Reynolds was a member of the Metropolitan Medical Society of Greater Kansas City.

- **Carl G. Popp, M.D.**, died January 30, 1987 at the age of 71. Dr. Popp, certified in internal medicine, practiced medicine in Sikeston until his retirement in 1981. During World War II, he served as a medical officer in the Rumanian Army. He obtained his medical degree at Cluj, Rumania, in 1940. Dr. Popp was a member of the SEMO County Medical Society.

- **Harold Scheff, M.D.**, died January 15, 1987 at the age of 79. Dr. Scheff, certified in internal medicine, practiced medicine in St. Louis. He obtained his medical degree at the University of Toronto Faculty of Medicine in 1931. Dr. Scheff was a member of the St. Louis Metropolitan Medical Society.

- **Robert C. Swisher, Sr., M.D.**, died February 26, 1987 at the age of 84. Dr. Swisher, a pediatrician, practiced medicine in Kansas City from 1929-1970. He served in the Navy Medical Corps in World War II. Dr. Swisher graduated from the University of Missouri-Columbia in 1924 and obtained his medical degree at the Washington University School of Medicine in 1927. Dr. Swisher was a member of the Metropolitan Medical Society of Greater Kansas City.

- **Reber M. Van Matre, M.D.**, died January 17, 1987 at the age of 86. Dr. Van Matre, a psychiatrist, practiced medicine in St. Louis. He obtained his medical degree at the Washington University School of Medicine in 1933. Dr. Van Matre was a member of the St. Louis Metropolitan Medical Society.

"Living in the city
is lonely enough...
with herpes it's like
solitary confinement."

ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX®
(acyclovir)
CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.

86-ZOV-5

Prevent recurrences month after month*

ZOVIRAX®

(acyclovir)

CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week post-dose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: *Teratogenic Effects:* Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m².

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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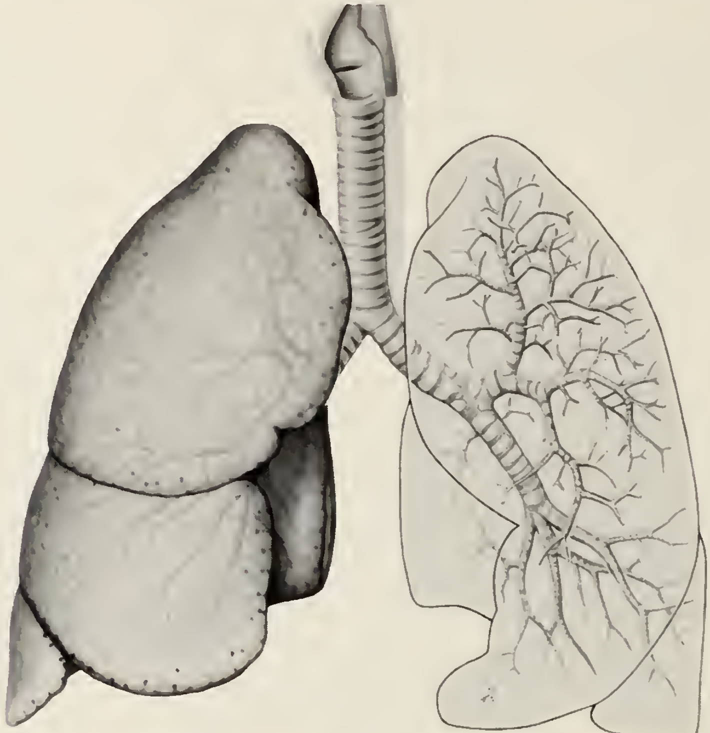

Ceclor® cefaclor

250-mg Pulvules® t.i.d. offers effectiveness against the major causes of bacterial bronchitis

Haemophilus influenzae, *H influenzae*, *Streptococcus pneumoniae*, *Streptococcus pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Note: Ceclor® is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Contraindications: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis; elevations in BUN or serum creatinine
- Positive direct Coombs' test
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly)

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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

April

15 **Hypercalcemia of Malignancy: Mechanisms and Management** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

23-24 **5th Annual Missouri Conference on Alcoholism/Drug Abuse** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

23-24 **Current Management in Critical Care** — Marriott Hotel Plaza, Kansas City, MO. Contact: Linda F. Smutz, Executive Director, Kansas City Southwest Clinical Society, 222 W. Gregory, Kansas City, MO 64114. 816/523-3383.

23-24 **14th Annual Symposium on Obstetrics and Gynecology** — Location: Washington University Medical Center, St. Louis. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

25 **Anticoagulant and Antithrombotic Therapy: State of the Art** — Location: Alameda Plaza Hotel, Kansas City, MO. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS. 913/588-4488.

29-30 **5th Annual Missouri Conferences on Alzheimers Disease and Other Dementias** — Location: Park Hilton, St. Louis, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

29-30 **Twelfth Annual Family Practice Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29-May 2 **Surgery of the Spine: State of the Art** — Location: Marriott's Pavilion, St. Louis, MO. Contact: St. Louis University School of Medicine, CME Office, 1402 S. Grand Blvd., St. Louis, MO 63104. 314/577-8167.

May

1 **Thirty-first Annual Infectious Disease Symposium** — Location: Crown Center Hotel, Kansas City, MO. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

8 **Arthritis Conference** — Location: Columbia, MO. Contact Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15-16 **Third Annual Symposium — Progress in Clinical Pediatrics** — Location: Children's Hospital, 3rd Floor Auditorium, St. Louis, MO. Contact: Physicians' Support Services, Children's Hospital, 400 S. Kingshighway Blvd., St. Louis, MO 63110. 314/454-6088.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

21 **The Initial 6 Hours of Acute Myocardial Infarction** — Location: The Adams Mark Hotel, St. Louis. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

June

4-5 **Patent Development and Biotechnology Transfer Programs for Academic Health** — Location: Stouffer Concourse Hotel, St. Louis, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

11-14 The Family Physician, The People Specialist — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Jean Larson, MAFP, 222 W. Gregory Blvd., Suite 211, Kansas City, MO 64114. 816/363-0322.

17 Neuroendocrine Tumors: Pathologic and Clinical Characteristics — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

22-26 The Physician in Management — Location: The Antlers Hotel, Colorado Springs, CO. Contact: Sherry Mason, American Academy of Medical Directors, 4830 W. Kennedy Blvd., Suite 648, Tampa, FL 33609. 813/873-2000.

July

18 Interoperative Radiation: A New Combined Treatment Approach to Cancer — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

August

1-8 Rhinology, Rhinologic Surgery and Rhinomanometry — Location UMKC School of Dentistry, Kansas City. Contact: Pat A. Barelli, M.D., course director, 2929 Baltimore, Suite 105, Kansas City, MO 64108. 816/561-4423.

6 Review of Orthopedic Infections — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

September

2-3 Advanced Cardiac Life Support Provider Course — Location: Francisco Lounge, Student Center, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

25 Nutrition Concerns for Women: A Symposium for Health Professionals — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

October

3-4 Infectious Disease Update 1987 — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

9-10 Allergy, Immunology and Rheumatology: Review and Update — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

9-10 30th Annual Physician Alumni Weekend — Location: UMC School of Medicine, MA217 CME Auditorium, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA 215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15-25 Allergy Abroad — Locations: Stockholm, Copenhagen, London. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

17 Rheumatology Former Fellows Conference — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20-21 Medicine and Religion: Issues in the Eighties — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

22-23 Chronic Obstructive Pulmonary Disease Update — Location: Holiday Inn Executive Center, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

November

7 Rheumatology Update — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

December

7-8 33rd Annual Urology Seminar — Location: Hyatt Regency Hotal, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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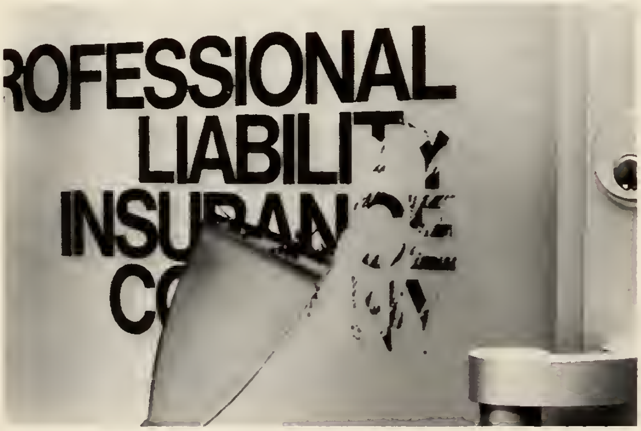

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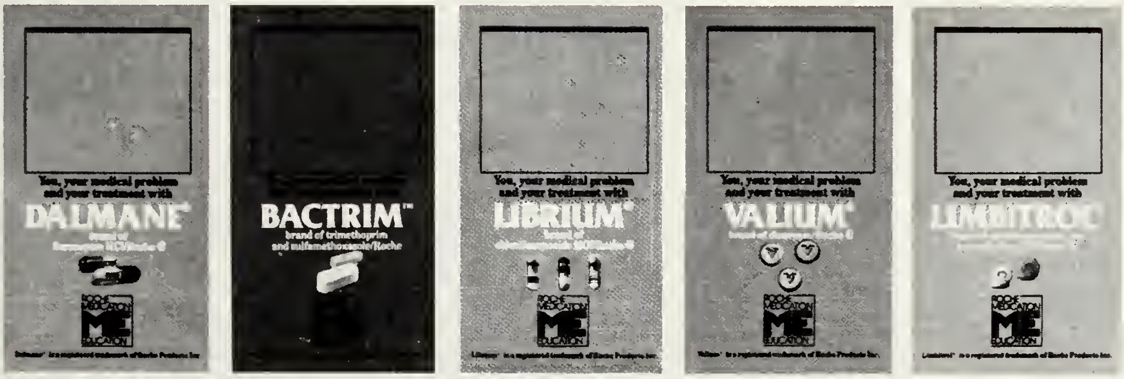
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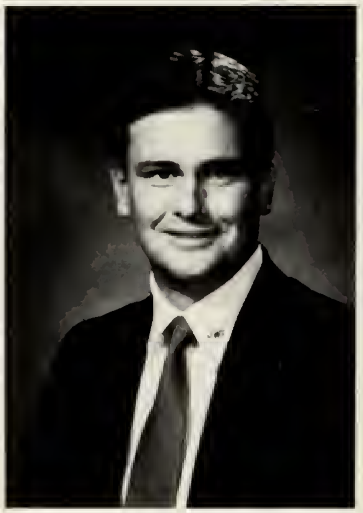

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"The Cedar Hill Hotel," 22 × 28 acrylic by Henrietta Diehl of *Fenton, Mo.* The painting was adapted from a 1912 photograph of the hotel which stood in Cedar Hill, MO, for 100 years. The hotel was razed in 1970.

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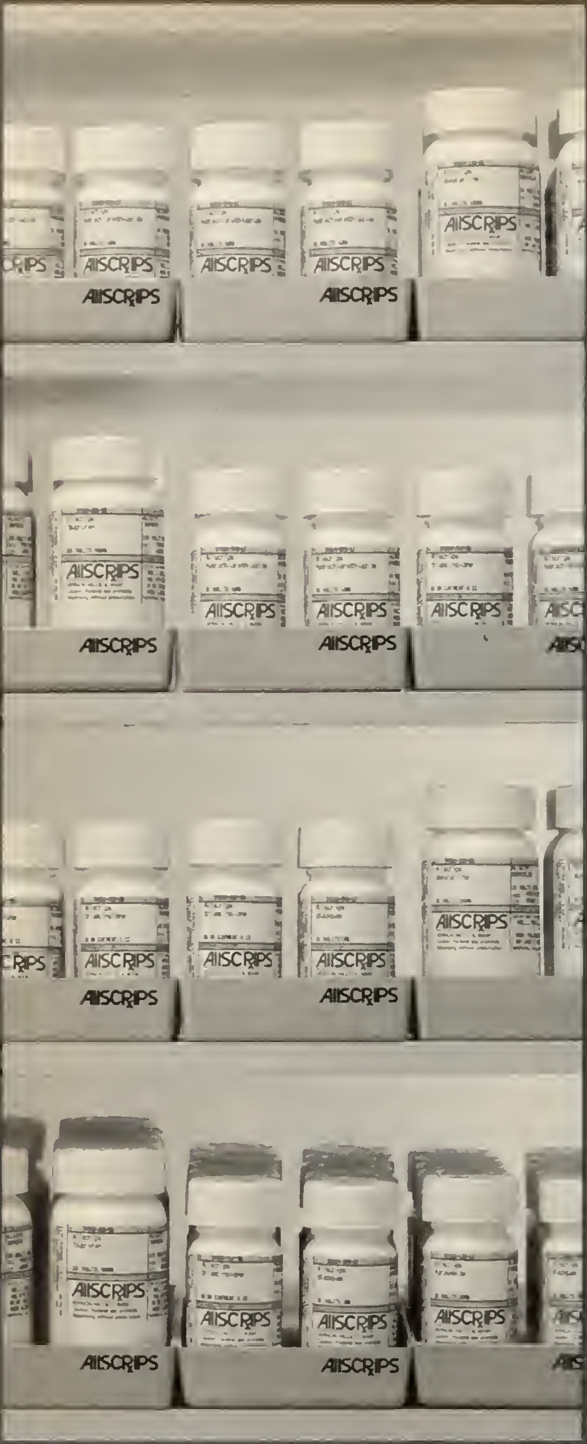

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Ellwood, Mittler tape available

In case you missed the 1987 annual convention general session debate on the future of solo and small-group practice, the MSMA is making available a cassette tape of the presentation.

The debate featured Brant S. Mittler, M.D., of San Antonio's "Physicians Who Care" chapter, and Paul M. Ellwood, Jr., M.D., of Excelsior, Minn., who coined the term "HMO." Their exchange proved to be lively, enlightening and thought-provoking.

County medical society officers may wish to purchase a tape for use by colleagues who were unable to attend the annual meeting.

To order your copy, write to the MSMA, 113 Madison Street, P.O. Box 1028, Jefferson City, MO 65102. Cost of the approximately 90-minute tape is $20. ■

1987 House of Delegates actions

The 1987 House of Delegates, meeting at the Lake of the Ozarks April 2-5, rejected proposals to form new membership sections for young physicians and medical students.

The question of the feasibility of forming an Association-sponsored IPA/HMO, an issue held over from the 1986 House, was also turned down. Relying on evidence presented to the MSMA Council and the Reference Committee on Constitution and Bylaws, the House cited the costs for start-up (approximately $4 million, which would have to come from MSMA members), potential conflicts between the HMO's goals and those of the Association, and the current proliferation of HMOs as reasons for not pursuing the matter.

A brief listing of resolutions adopted by the House follows. A complete report of the 1987 House of Delegates proceedings will be published in the July issue of *Missouri Medicine*.

- **Funding for Physician Rehabilitation Program.** Calls for the MSMA to seek funding from hospital medical staffs and other interested parties to support the PRP.
- **The Employed Physician as Patient Advocate.** Affirms role of physician as patient advocate, particularly when this role conflicts with economic goals of a 3rd-party employer.
- **Alcohol Abuse.** Reaffirms support of community and professional programs to educate public about drug and alcohol abuse, and treat the patients with these problems.
- **Definition of Death.** Brings MSMA policy and definition into line with state statutes.
- **Model Legislation for Driving While Intoxicated.** Calls for development of legislation requiring physicians and hospitals to report results of chemical analyses of body fluid or breath when DWI is suspected, and providing immunity to the reporting physician. Also calls for lowering of BAC level to 0.05% as evidence of drunk driving.
- **Diagnosis Related Groups.** Affirms opposition to inclusion of physician fees in any DRGs.
- **Young Physician DRG Payments.** Affirms opposition to arbitrary reductions in Medicare reimbursement to young physicians.
- **Opposition to Involuntary Contracts Through Licensing.** Affirms opposition to withholding medical licensure based on physician's non-acceptance of Medicare assignment.
- **Hospital Medical Staff Model Bylaws** (substitute). Calls for development of model HMS bylaws, consistent with Missouri law, to be "appropriately disseminated."
- **Support for Catastrophic Health Insurance Plan** (substitute). Calls for MSMA support of AMA-proposed catastrophic health plan as outlined in Report MM (A-86), replacing Medicare.
- **PRO Second Opinion** (substitute). Asks that a physician rendering a mandated second surgical opinion not perform the proposed surgery.
- **Standardization of Qualifications for Operators of Emergency Vehicles Transporting Injured/Ill Patients** (substitute). Urges development of regulations governing the granting of privileges for ambulance drivers — may include coursework and re-evaluation.
- **Education in the Professional Discipline Process** (substitute). Supports teaching of medical ethics in medical school and training programs, including information on professional discipline.
- **Medicare Reimbursement.** Calls for MSMA to continue to consult with and educate public about discrimination under Medicare.
- **Support for Minimum Immunization Requirements** (substitute). Urges State Health Department to bring immunization requirements into line with American Academy of Pediatrics recommendations.
- **Support of Licensure for Dietitians** (substitute). Urges legislation that would require anyone using title "dietitian" to be a registered dietitian.
- **Installment Payment of Dues** (substitute). Supports acceleration of the implementation of installment billing for dues, and expresses displeasure at length of time AMA has taken to study and implement the system.
- **Equal Reimbursement for Equal Service.** Calls for equal reimbursement for the same medical care, regardless of where the physician and patient live or work.
- **Public Education Concerning Professional Review**

Continued on page 263

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: **'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); In Patient-Pak™ unit-of-use bottles of 100.**

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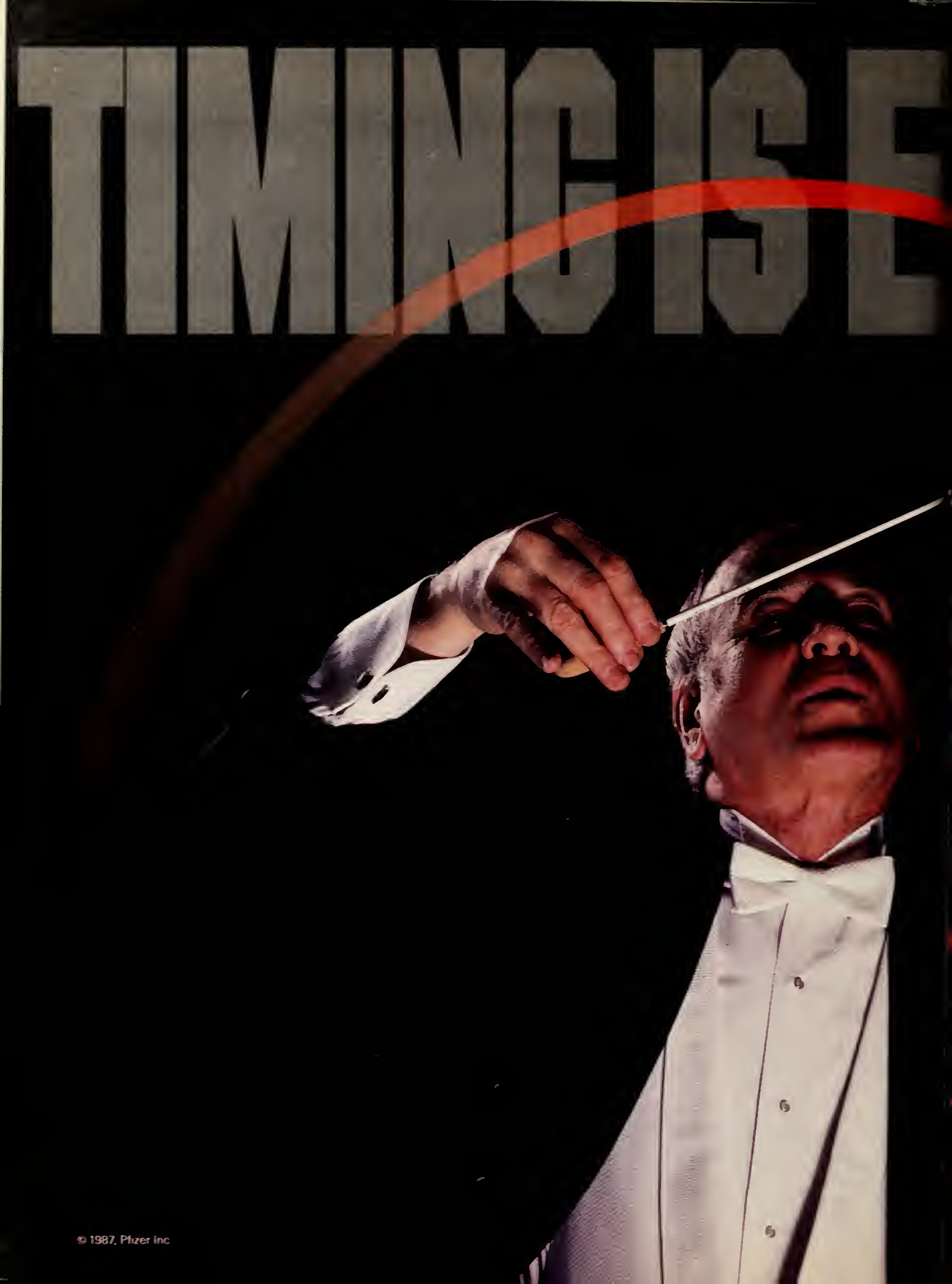

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SYNCHRONIZED SULFONYLUREA THERAPY

Please see brief summary of Glucotrol® (glipizide) prescribing information on next page.

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Reference

1. Sachs R, Frank M, Fishman SK. Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ. Excerpta Medica, 1984, pp 163-172

GLUCOTROL® (glipizide) Tablets

Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM, type II) after an adequate trial of dietary therapy has proved unsatisfactory

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-830, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility

Pregnancy: Pregnancy Category C. GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued

Pediatric Use: Safety and effectiveness in children have not been established

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Cholestatic jaundice may occur rarely with sulfonylureas. GLUCOTROL should be discontinued if this occurs

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus, and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL. In general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps

Maximum Dose: The maximum recommended total daily dose is 40 mg

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided

HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NDC 5 mg 0049-4110-66) Bottles of 100. 10 mg tablet—Pfizer 412 (NDC 10 mg 0049-4120-65) Bottles of 100

CAUTION: Federal law prohibits dispensing without prescription

More detailed professional information available on request.

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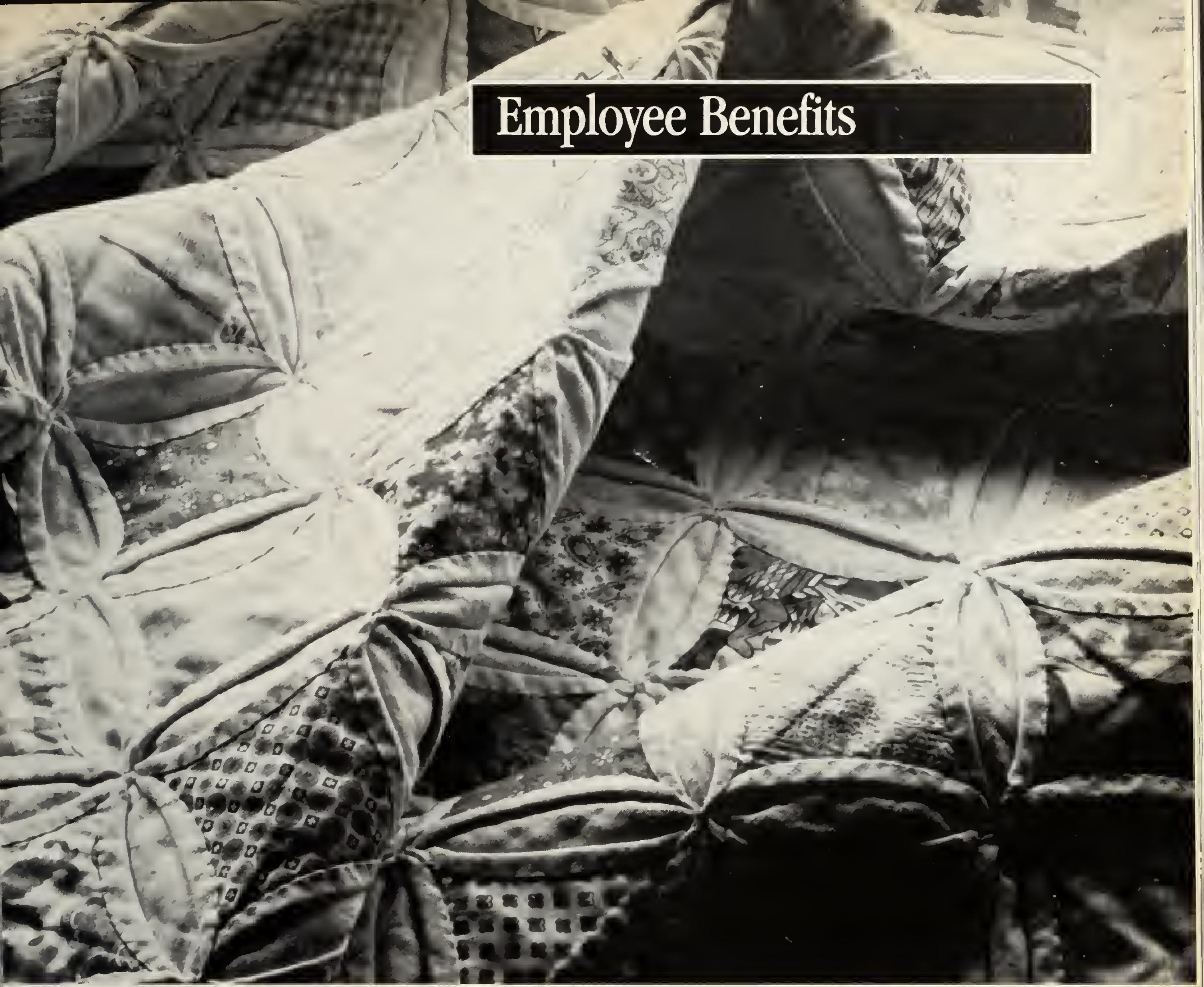

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Book Reviews

Medical Education

Learning to Heal: The Development of American Medical Education, by Kenneth M. Ludmerer, M.D., 346 pp, $21.95, New York, Basic Books, Inc., 1985.

About the author: Kenneth M. Ludmerer, M.D., teaches history at Washington University, St. Louis, and internal medicine at Washington University School of Medicine.

This is highly recommended reading to people who are interested in the subject of the evolution of medical education in the United States. Dr. Ludmerer richly details the emergence of the driving forces behind the development of American medical education as it exists in the 1980s. He starts his book approximately mid-1800s and has researched and documented quite adequately the various personalities, forces, factors, and influences that led to the development of education as we know it in the last quarter of the 1900s.

In his book he covers more than the one century of the development of medical education in the United States and does clarify the developments of each point and the forces by which they were brought about. There is clarification of some of the folklore around the work of various people and the significance with which their work had an effect on the progression of medical education here in the States. It is significant that he places the activities of each of the players on the stage of medical education in proper perspective and clearly outlines their contribution to the total process.

It is quite clear that medical education is an extremely costly enterprise and that expenses, at least at this point in time, have not stopped rising. Medical schools seem to have bottomless needs economically, a condition which continues to the present time.

Modern education, Ludmerer says, has driven up health care costs as well. "If the public thought medical schools had become expensive to support, they received an even ruder shock as it discovered how expensive modern health-care services could be. Rising health-care costs were in part related to the country's advanced system of medical education, for it was the research performed in the schools that led to the scientific, technologically based care that can cost so much to provide."

"Learning to heal," like other types of learning, is profoundly influenced by the institutional framework in which it is carried out. The medical schools today have assumed a corporate structure or form. It behooves those who are interested in medical education to read this work which is extremely well documented and richly detailed, leaving the reader with a much better grasp of the developing medical education system in the United States during the past century. ■

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University of Missouri-Columbia School of Medicine
Columbia, MO

Illness

The Impact of Illness on World Leaders, by Bert E. Park, M.D., 352 pp, $24.95, Philadelphia, University of Pennsylvania Press, 1986.

About the author: Bert E. Park, M.D., is a neurosurgeon in Springfield. He is completing a master's degree in history at Southwest Missouri State University in Springfield. This book serves as his master's thesis.

The Impact of Illness on World Leaders is a thought-provoking analysis of a fascinating topic. Bert E. Parks, a neurosurgeon/historian from Springfield, Missouri, demonstrates the devastating effect of neurologic illnesses on eight international leaders, the countries they ruled, and the world as a whole during a 40-year period beginning immediately after World War I. Eight well-documented case reports make up the bulk of this book. The final chapter is a brief analysis and a summary of the author's conclusions. The book is tightly written and is especially timely in the light of recent events that have led many to question whether advanced age has taken a toll on our president.

Woodrow Wilson was afflicted with hypertension while still a relatively young man. He suffered numerous small strokes, which affected his behavior and thought processes. This deterioration was most apparent during the Paris Peace Conference negotiations of 1919; the exhausted president agreed to terms which were so vindictive against Germany that they practically assured a second world war. While convalescing from a severe stroke, Wilson dealt so inflexibly with Congress that he prevented U.S. participation in the League of Nations. During his final term as president, his personal physician, Cary Grayson, withheld vital information about his condition from the

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Book Reviews

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American public and Congress, while the president's wife effectively ran the country.

Three European leaders, stricken by neurologic sequelae of old age, were partly responsible for Adolf Hitler's meteoric rise to power during the 1930s. The 86-year-old German President Paul von Hindenberg, showing marked intellectual decline and apparently too tired and disinterested to resist, surrendered his government to the wily dictator. British Prime Minister Ramsey MacDonald, incapacitated by depression and then Alzheimer's disease, was so preoccupied by the notion of pacifism that he was unable to evaluate objectively Hitler's rapidly broadening powerbase. As a result, Ramsey lost several excellent opportunities to avoid war. Poland's military dictator Marshal Jozef Pilsudski, aging prematurely and suffering from delusions that his country was invincible because of its excellent cavalry, was not particularly concerned about Hitler. As Park notes, Pilsudski's cavalry was the finest in Europe, but only because no other major European country relied on this antiquated form of defense.

Nazi leader Adolf Hitler probably suffered from Parkinson's disease, temporal lobe epilepsy, and the side-effects of polypharmacy. During his last four years, he took more than seventy different medications. Some of these were poorly characterized patent drugs created by Hitler's personal physician, Theodor Morell. Some included central nervous system stimulants such as amphetamines, cocaine, strychnine, and belladonna. According to contemporary German medical authorities, Morell was a charlatan but a good businessman. He had such control over Hitler's mind that the Fuehrer made the purchase of Morell's medications compulsory nationwide. Park believes that the temporal lobe epilepsy and polypharmacy may explain much of Hitler's bizarre behavior, especially toward the end of the Third Reich.

It is now widely known that Franklin D. Roosevelt was very sick during his last term as President of the United States. Roosevelt suffered from hypertension, diffuse atherosclerosis, chronic obstructive pulmonary disease, and congestive heart failure. In combination these afflictions caused bouts of transient encephalopathy which produced cognitive decrements varying in severity from diminished mental clarity to stupor. Park demonstrates that Roosevelt was sometimes a lucid and capable leader during his last term. He also presents evidence that Roosevelt negotiated effectively with Joseph Stalin and Winston Churchill at Yalta, contrary to what has been suggested by others. Roosevelt's physician, Ross McIntire, deceived the American public by presenting the president as a man who was quite healthy for his age, a story which became even less credible when the president died in office. Park contrasts McIntire's medical opinions, published as a book in 1946, with those of Howard Bruenn, a cardiologist at the U.S. Naval Hospital. Bruenn had been consulted to help McIntire treat the president. He published an article in the *Annals of Internal Medicine* in 1970 recounting Roosevelt's illnesses, apparently because he wanted to set the record straight and because the president's medical records had mysteriously disappeared from the safe at the Naval Hospital.

Finally, Park briefly examines the waning years of British Prime Minister Winston Churchill and his replacement, Anthony Eden. Churchill was ineffective during his second term because of dementia secondary to two strokes and multiple episodes of transient cerebrovascular ischemia. Eden, apparently under the influence of amphetamine toxicity, became entangled in the Suez Canal crisis of 1956 in an attempt to reassert Britain as a world power.

One of the central themes of this book is that a few privileged physicians have access to information about the mental health of world leaders. This information may be vital in determining whether a leader is capable of analyzing complex situations in order to make rational decisions. In the cases of Presidents Wilson and Roosevelt, personal physicians were directly responsible for misleading the American public concerning the mental status of their patients. Wilson's physician, rationalizing that continuing work would be beneficial for his patient, prolonged the president's tenure well beyond his ability to govern, insisting repeatedly that his patient was alert and healthy despite considerable evidence to the contrary. Should what is good for the patient outweigh what is good for the country or the world? Park believes that in America the president's physicians are now prevented from withholding politically damaging medical information by media exposure and information leaks. Unfortunately, "such assurances . . . do not exist in a totalitarian state (p. 311)."

That "all too often, such 'credentials' as social polish, engaging conversation, loyalty, or even a subservient nature count for more than a physician's experience or skills (p. 35)" is a recurring theme in the book. For instance, Adolf Hitler's personal physician,

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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Separating fact from fear

> *We often find it hard to understand the public's seeming concentration on health trivia, while matters of consequence to their well-being are ignored.*

Physicians spend all day in their practices separating the important from the unimportant. Perhaps it's for this reason that we often find it hard to understand the public's seeming concentratioin on health trivia, while matters of consequence to their well-being are ignored. People respond to exaggerations in medicine as in anything else. With the exception of AIDS, what's making the headlines is not usually of any great threat to our health.

Missouri newspapers used plenty of black ink on the dioxin doings of a couple of years ago. The public's worry level skyrocketed over such a chemical monster, but were our hospitals flooded with victims of this perceived scourge? During the same year, more than 3,000 Missourians died of lung cancer; the only printer's ink used on these victims was found in the obituaries. The announcement of possible existence of minute traces of a theoretical carcinogen in occasional foodstuffs has led to frantic examinations of many pantry shelves. Such products are returned to grocers with all the speed usually reserved for the disposal of time bombs. How about overindulgence in all those other foods on the shelves, leading to life-shortening obesity?

We need to quickly but politely separate what the patient wants to tell us from what we need to know. The average physician spends medical school plus four or five years learning his trade, while the lay person's health education usually fades after high school hygiene. Most physicians are faced with a comparable dilemma when taking their balky cars into a repair shop. "We need to put it on the machine — $50" says the mechanic. What do we know?

Doctors do face the dilemma of communicating health facts to their patients. Smoking? — that's important. The ingestion of cyclamates or nitrites, or the radiation exposure of a mammogram or chest x-ray — probably not. Exposure to lawn chemicals and hair sprays — hypothetical risks. But, being a black male in the United States means one chance in 28 of dying by being murdered. That's a health hazard. Constipation, caffeine and that great health hazard, MSG, have thrown thousands into a health tizzy. Accidents, however, cause half of the deaths in Americans up to age 44 years. High blood pressure and cigarettes account for more than half the preventable deaths under age 65.

Fear of the unknown, suspicions of doctors and business ("The Corporate Poisoning of America"), and preoccupation in the sensational are unfortunate elements in the average person's health concerns. Only because AIDS showed up through an exotic route involving homosexuals and Haitians has it gained the attention it does deserve.

Tobacco, drug and alcohol abuse, obesity and lack of preventive health care — now we're talking *important*. ■

my•o•pia

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CONTRAINDICATIONS: None.

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PRESIDENT'S PAGE

by Larry G. Piepergerdes, M.D.

Attending the annual AMA Leadership Conference proves rewarding.

Annual AMA leadership conference

Several Missourians attended the AMA Leadership Conference held recently in Chicago. Topics presented during the break-out sessions included AMA health insurance claim forms, professional liability reform financing, legal milestones, financing health care for the elderly (AMA Board of Trustees Report MM/A-86), professional self-regulation, adolescent health, and medical ethics.

One optional seminar I attended with six colleagues was titled "Strategies for Effective Leadership," led by Pat Hein, Ph.D. More than 150 participants took, as part of the seminar, the Nyers-Briggs Type Indicator Test, a psychological profile test. We all gained a great deal of insight into our individual psychological makeup.

Dr. Hein listed five priorities for peak performance as a leader.

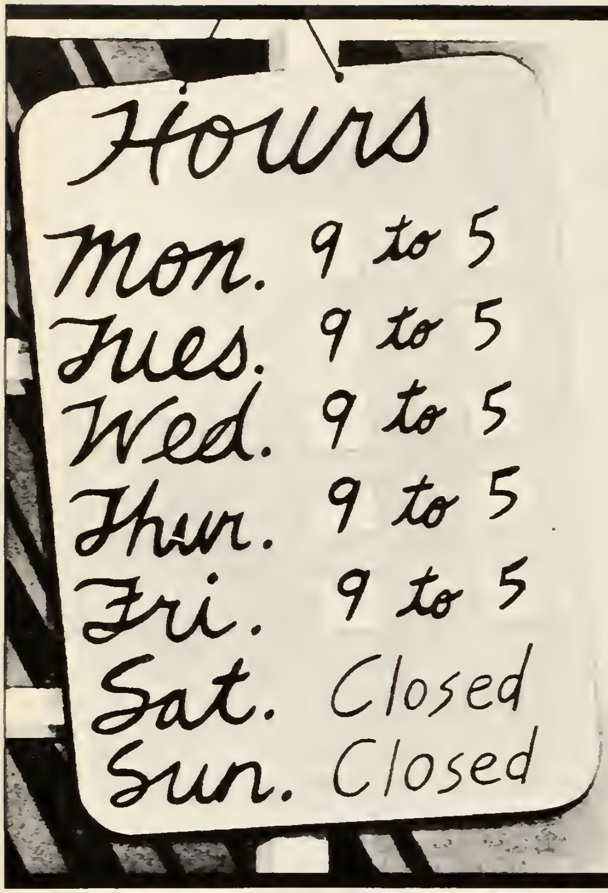
- Ignore the limits placed on us by conventionality.
- Have written goals and read them regularly.
- Learn to deal with your own anxieties about performance.
- Constantly visualize your goals and move toward them.
- Avoid comfort zones by working smarter, not harder.

Dr. Hein's presentation emphasized various effective leadership styles. In fact, those of us who attended her seminar felt it was so well done, we would like to invite her to Missouri for an MSMA leadership conference.

Another interesting session at the conference was "Enhancing Confidence in Medicine: Ethics and the Bottom Line," presented by Alan Nelson, M.D., chairman of the AMA Board of Trustees. Following is an excerpt from his informative presentation:

"Managing and directing the inevitable changes are intrinsic to the strategies being developed by your Board of Trustees in our new policy planning process — a process that is committed to achieving our new key objective as we finish this century and begin the next: A key objective that states, 'The key objective of the American Medical Association is to contribute to the professional and personal development of member physicians and to the betterment of the health of the public by developing and distributing information; by advocating health-related rights, responsibilities and issues; and by representing the profession as a whole where the image, expertise and national scope of the AMA prove useful. This is to be done in a manner that is cost-effective, protects physician autonomy and self-determination, improves the practice of medicine, and builds public confidence in the

Continued on page 232



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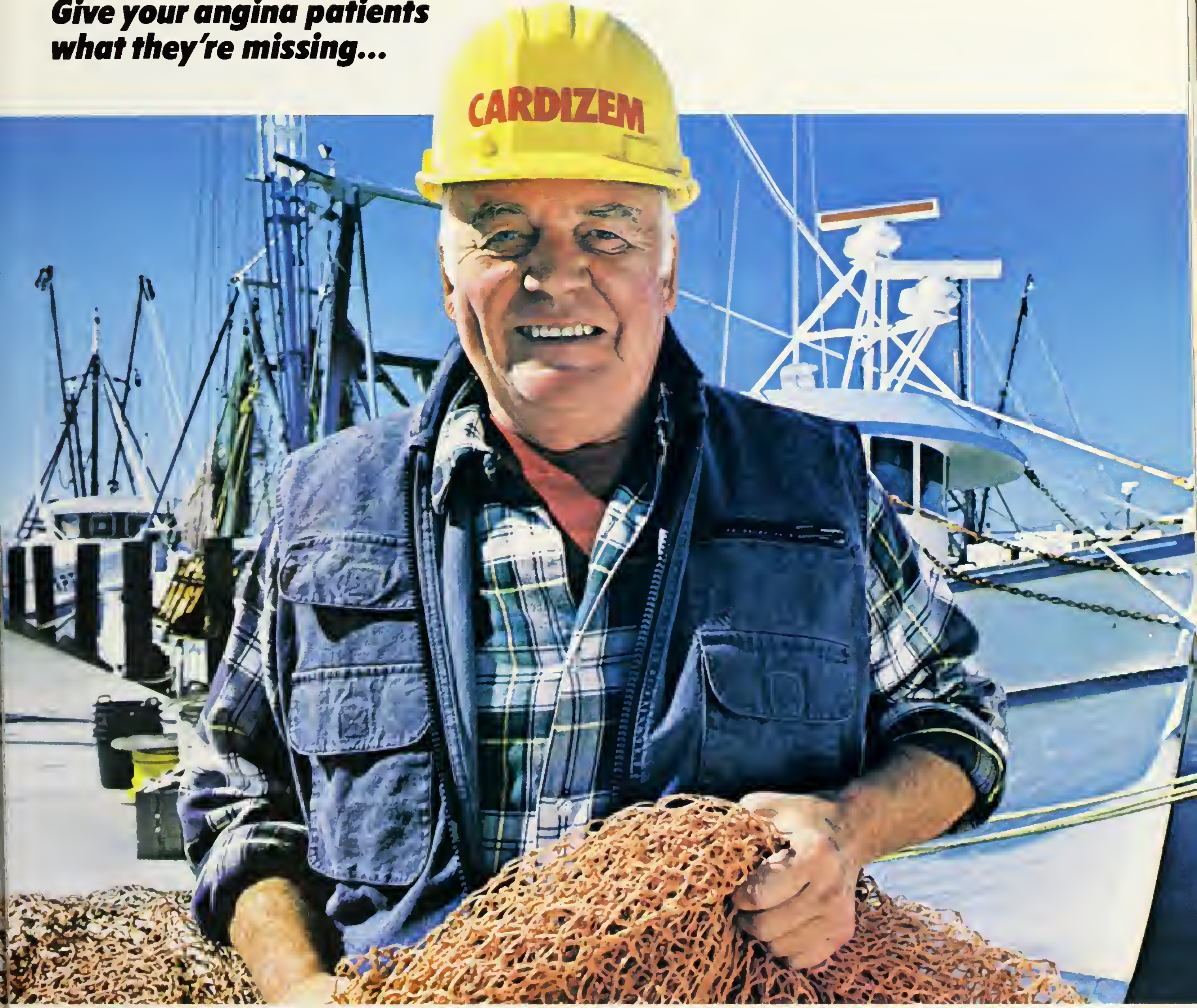

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Brief Summary
Professional Use Information

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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1 **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1 243 patients for 0 48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*

2 **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*

Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited Caution should be exercised when using the drug in such patients

3 **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension*

4 **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted These reactions have been reversible upon discontinuation of drug therapy The relationship to CARDIZEM is uncertain in most cases, but probable in some (See PRECAUTIONS)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM (See WARNINGS)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity There was also no mutagenic response in in vitro bacterial tests No intrinsic effect on fertility was observed in rats*

Pregnancy. *Category C Reproduction studies have been conducted in mice, rats, and rabbits Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality These doses, in some studies, have been reported to cause skeletal abnormalities In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women, therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus

Nursing Mothers. *Diltiazem is excreted in human milk One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted*

Pediatric Use. *Safety and effectiveness in children have not been established*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established The most common occurrences as well as their frequency of presentation are: edema (2 4%), headache (2 1%), nausea (1 9%), dizziness (1 5%), rash (1 3%), asthenia (1 2%). In addition, the following events were reported infrequently (less than 1%).

Cardiovascular	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope*
Nervous System.	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase. SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase*
Dermatologic	*Petechiae, pruritus, photosensitivity, urticaria*
Other	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM alopecia, gingival hyperplasia, erythema multiforme, and leukopenia However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established Issued 7/86

See complete Professional Use Information before prescribing

References: 1. *Pepine CJ, Feldman RL, Hill JA, et al. Clinical outcome after treatment of rest angina with calcium blockers Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983, 106(6): 1341-1347* **2.** *Shapiro W: Calcium channel blockers Actions on the heart and uses in ischemic heart disease Consultant 1984 24(Dec): 150-159* **3.** *Johnston DL, Lesoway R, Humen DP, et al. Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris A placebo-controlled, double-blind, randomized, crossover study Am J Cardiol 1985,55.680-687* **4.** *Cohn PF, Braunwald E Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease A Textbook of Cardiovascular Medicine, ed 2 Philadelphia, WB Saunders Co, 1984, chap 39* **5.** *Schroeder JS. Calcium and beta blockers in ischemic heart disease. When to use which. Mod Med 1982.50(Sept).94-116*

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Auxiliary Message

by Sandy Mitchell
MSMAA President

Let us be proud of our accomplishments and accomplish much to be proud of in the year to come.

Auxiliary begins 1987-88 program

It is with a great sense of pride that I find myself standing before you today. The confidence you have demonstrated and the constant support and encouragement you have extended have paved the way for the year to come.

I anticipate that we will have an exciting year working together to promote Medicine and its image.

As we enter the Auxiliary year of 1987-88 let us choose to make the commitment to promote Medicine and those who serve its cause in a positive manner. Let's tell our story like it is — not as the public envisions it or like the movies portray it. We have so much to be proud of — so much to be thankful for — and so many opportunities to share our enthusiasm. The state organization is merely an extension of your county organizations which in turn represent each individual member. Let's make it a goal this year to assist members in better understanding the levels of the organization and where he or she fits in. Emphasis will be placed on leadership training not only involving jobs currently held but also looking forward to potential leaders of the organization. Workshops and meetings can only succeed if the membership attends. Each of us must serve as a promoter.

Another objective will be to keep members informed of current advances in Medicine. At the community level we must appear interested and knowledgeable regarding medicine's latest trends. The Auxiligram will carry articles of interest on scientific advances in Medicine. Meetings throughout the year will feature medical terminology and its application, explanation of office practice advancements and other medical information.

A closer bond between medical associations and their Auxiliary will be encouraged. As your president, I serve on the Missouri State Medical Association Executive Council. Reports are given to Council members on accomplishments, assistance needed, and suggestions are offered on behalf of the Auxiliary. With the direction and guidance of the Missouri State Medical Association we will encourage this level of participation with all county associations for more continuity of ideas and attitudes.

It will also be our objective to provide better press and media coverage for Medicine. The state organization will promote a news release system to get the word out to Missouri communities on member involvement. We do have a story to tell. Let us be proud of our accomplishments and accomplish much to be proud of in the year to come.

Acknowledged by our presence here today we have chosen to be a partner in the practice of Medicine. Through a better understanding and an attitude of pride in the profession we can promote Medicine's cause and strengthen its direction in our communities.

Work with me this year as we enthusiastically fulfill the Auxiliary goals.

Hopefully Missouri's auxiliaries will choose to work together hand in hand with Missouri Medicine to promote

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■ Book Reviews

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considered a quack by his contemporaries, appealed to the Fuehrer because his wife was a famous actress and a friend of Eva Braun's. Wilson's physician was a young Naval officer; he was chosen because he was a relative of a former Naval Surgeon-General and because he was a good story teller. He had no special training in the treatment of hypertension or cerebrovascular disease. Roosevelt's physician was an ENT surgeon, a puzzling choice for a man with severe hypertension, atherosclerosis, COPD, and congestive heart failure.

For seven of the eight leaders, the case for disease is built primarily on the evaluation of secondary sources. Historians might criticize the author for his extensive use of secondary sources. However Park is able to use recorded observations of contemporaries to document subtle or not so subtle deterioration in the mental status of these eight world leaders. Close associates were often in an excellent position to observe mental status changes. In most instances, the leader himself was only vaguely aware of his deteriorating condition. A physician compiling a clinical history to evaluate a patient for neurologic deterioration must often rely on others for information about the patient's former level of intellectual function. Park's documentation of the neurologic changes incapacitating these world leaders is compelling. With minor exceptions, his specific diagnoses are equally compelling.

I cannot recommend this book strongly enough. It is a fascinating analysis of a time period in which the centers of world power shifted from the Old World to two new nuclear superpowers. Park has capably demonstrated that the failing mental health of eight world leaders was, in part responsible for this change. It strongly argues that people should be able to learn when their leader has become neurologically compromised. In the age of potential nuclear warfare, we must all hope that rational minds will prevail.

James R. Wright, Jr., M.D.
Resident in Pathology
Barnes Hospital
Washington University
School of Medicine
St. Louis, MO

(editor's note: Dr. Wright also has a master's degree in the history of medicine from the Ohio State University)

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■ President's Page

Continued from page 229

competence and reliability of physicians.' "

Additionally, Dr. Nelson examined an area of concern to him that he feels must not change: "Our professionalism. What it consists of, what we must do to maintain it, and how we and those who follow us will suffer if we lose it.

"We are all familiar with the words of Hippocrates, who said, 'Declare the past; diagnose the present; foretell the future. Practice these acts. As to disease, make habit of two things — to help, or at least to do no harm.'

"It is notable that the passage quoted in *Epidemics* continues, 'The art has three factors: the disease, the patient, the physician. The physician is the servant of the art. The patient must cooperate with the physician in combating the disease,' " Dr. Nelson said.

He continued, "But much more is now involved. In addition to the disease, the patient and the physician, there are now organized medicine, third party payers, and complicated government regulations and interventions, in addition to malpractice suits and cost containment rules. Things are no longer the way they appeared to the author of the Hippocratic work, *Law*, who observed, 'Medicine is the only art which our states have made subject to no penalty save that of dishonor.' "

This was an excellent Leadership Conference. I am looking forward to attending next year's conference with many other physicians from Missouri. ■

PRACTICE MANAGEMENT

by George S. Conomikes

Competition is increasing in the medical field. Here are some guidelines for improving your practice internally, from reception room to office personnel.

How to meet the competition

Competition is increasing with more physicians coming out of the medical education pipeline.

Patient visits are down. Is this due to recession or to changes in patients' medical habits?

Fees are becoming fixed, reduced and negotiated.

The outlook, as they say, isn't exactly rosy. Yet we find that some physicians seem to be faring better than others. These more fortunate practitioners have some common threads of practice performance that seem to enhance their net results compared to their colleagues.

In this article I will try to point out some of the things that can be done internally, in-house, to improve your marketing.

Quality of your personnel. Front office employees are the first and last point of contact with your patients. If they put patient telephone calls on hold, don't listen carefully to patient-stated problems, don't make appointments that are convenient to the patients' schedules, and are too aggressive in collections — you will fare poorly. Patient satisfaction surveys pinpoint that dissatisfaction with your personnel is the third greatest concern of patients, after physician communications and fees. We believe that all medical office personnel should be educated to the fact that their salaries really come from patients, therefore their real employers are satisfied patients.

Consequently, employees should be carefully screened and selected to determine their communications and empathy skills. In our consulting work we have observed that the supposedly "tough but skilled" nurse turns patients away. The physician may overvalue technical competence, to the detriment of patient returns.

One important measure of the competence of the new employee who answers the phone and makes appointments is the "no-show" rate. If your "no-shows" increase, it specifically points to weakness with the telephone/appointment scheduling employee.

Appearance of the practice. We all judge a house, a building, an office, a reception room and people, based upon our first 15 seconds of visual contact. So do your patients. Therefore, your reception room conveys important messages to your patients, especially new patients. We recommend the use of a professional, commercial decorator to provide a professional appearance to your reception room, and an overall "look" for your business offices, exam rooms and hallways.

The reception room should have good lighting, carpeting, music (to screen out the front-desk receptionist's conversation), and current magazines. It could employ subdued colors (beiges and browns). If the physician has won awards, commendations, or community service plaques, these should be displayed in the

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■ Practice Management

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reception room. Patients like to deal with award-winners and community-involved professionals. Not long ago I was at an ob-gyn practice where the reception room displayed photos and plaques of the little-league teams (boys and girls) that the physician had coached. Patients looked at the pictures to try to spot their own or their neighbor's children. It was a definite patient-pleaser.

We feel that carpeting should be employed throughout most of the practice. It provides a good appearance, helps soundproof, and is easy to maintain.

Diplomas should be displayed in the hallways. They are more likely to be seen there than in the physician's office.

Employees can help the appearance of a practice. Uniforms minimize clothing competition among employees and many attractive uniforms, such as blazer-outfits, are available. In fact, we recommend that uniforms and/or lab-coats should be worn by *all* staff as well as by the physician.

Name tags with job titles help patients identify with whom they are dealing. Doctors' uniforms could have their names sewn on, if badges get in the way. For the physician it provides another way to have his/her name seen by the patient. Repetition helps them remember you!

Doctor/patient communications. The "too busy" physician of the '60s and '70s was forced to spend less and less time with the patient. This resulted in habits which most physicians find difficult to break.

The number one complaint voiced in most patient surveys is "the doctor didn't spend enough time with me." I was at one practice where the physician was only seeing 15-20 patients per day but was still rushing in and out of exam rooms as if he were seeing twice that number.

Extend your time with patients. One way is to avoid putting the patient medical chart between you and the patient. Try to sit at an equal eyeball to eyeball level, especially on the first visit.

Listen to the patient, maintaining eye contact. After the patient has provided the problems and/or complaints, ask permission to write notes in the chart. If you dictate, dictate your findings in the patient's presence. You are now repeating your findings, extending your time with the patient, and bringing the patient into your medical art-form.

Many physicians always ask the patient if "there is anything else you want to bring to my attention." This tells the patient you are not in a hurry, and that you are thorough.

Try to explain what you are doing in your examination and for what you are looking. Patients like to be informed and treated as intellectual peers. It flatters them and you display your medical thoroughness.

These three checkpoints — personnel, appearance and doctor/patient art-form — account for three major means of improving your in-office marketing with patients. ■

■ Auxiliary Message

Continued from page 231

Medicine's positive image. Share with me now the words of an unknown author regarding our ability to choose in the coming year.

TODAY . . . I CAN CHOOSE

Today comes with built-in decisions, great and small. The clothes I put on, the roads I travel, the people whose lives I touch . . . in fact, nearly everything in my day depends on how I choose.

Today I can choose to carry the cudgel of blame, or to hold out a helping hand . . . to shout out loud in anger, or to wait ten seconds . . . to cloud someone's mind with doubt, or to lift a heart with encouragement.

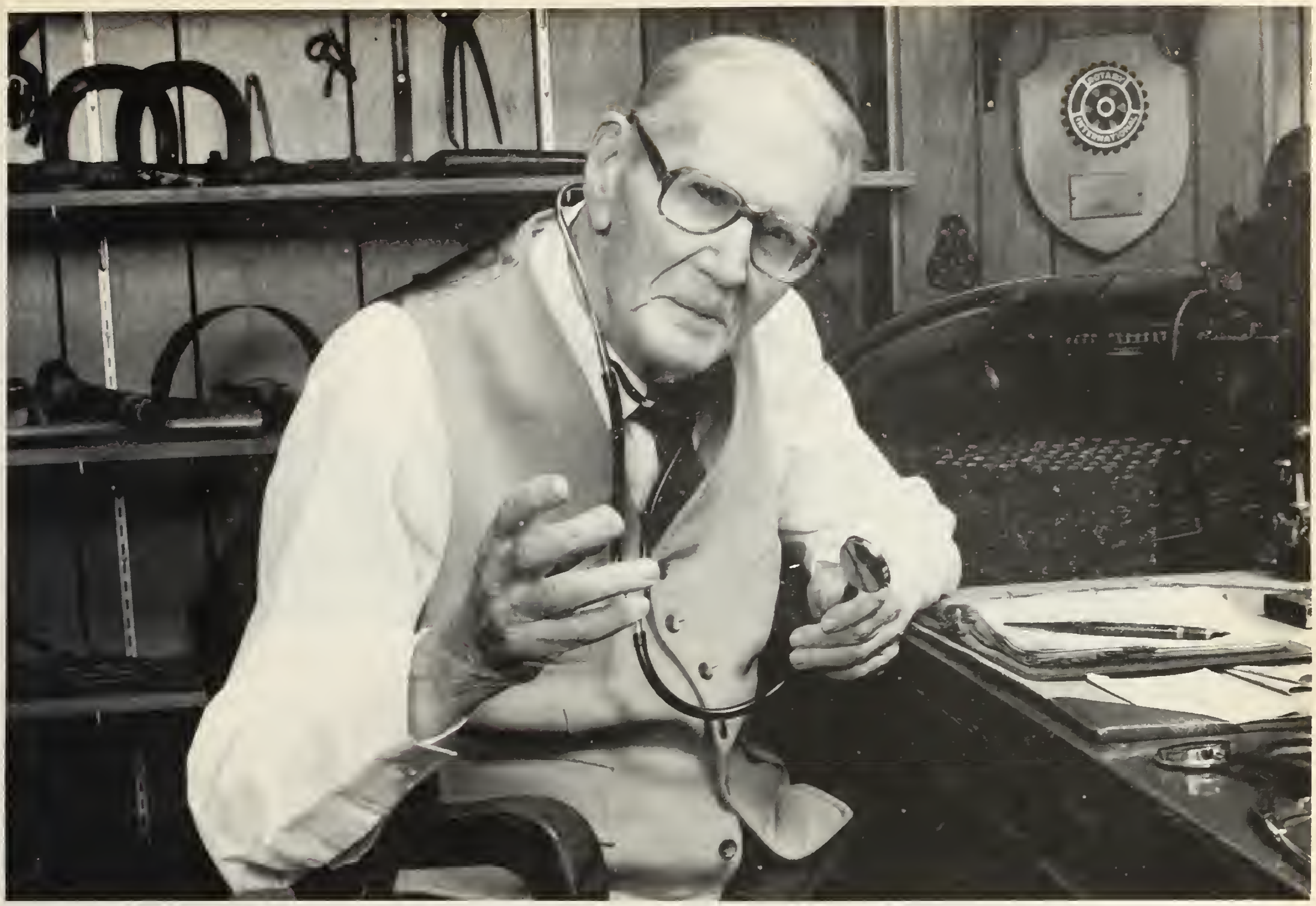
Today I can choose whether to count stars or to count mudpuddles. When I go to the store, I can choose to see how much there is to buy instead of how much I have to pay. When I get stuck in traffic, I can see, in every other car, a person just as important as me.

Today, because I live in a free land, there are a thousand things I can choose: the neighborhood I live in, the friends I laugh with, the work I do, the thoughts I think, the dreams I dare to dream.

And what I will become, in spite of my fears and failures, in spite of the talents I lack, in spite of all the privileges I never have had, depends on how I choose to challenge myself today.

For I have power, if I choose, to act instead of complaining . . . to speak out instead of cherishing a hurt . . . to seek justice instead of getting even . . . to love the world, instead of waiting for the world to embrace me first.

What I choose today may well be the cause of my tomorrow. Today . . . I shall live as I choose. Let me choose wisely and well. ■



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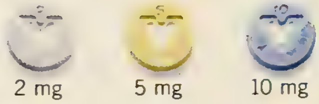

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Endoscopic Sinus Surgery

A Functional Approach

Stanley E. Thawley, M.D.,
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Chronic recurrent sinusitis is a common problem. The combination of endoscopic sinus surgery with new diagnostic technologic advances, however, is allowing for improved treatment of these problems.

The success of functional endoscopic sinus surgery depends on an understanding of the underlying pathophysiology of paranasal sinus disease and the ability to determine the cause of disease accurately by endoscopic techniques and computed tomographic (CT) scanning.

In the nose and paranasal sinus area, contact between mucosal surfaces produces localized disruption of mucociliary clearance and results in retention of secretions and an increased potential for infection. Mucosal contact may occur as a result of hyperplasia following an injury or infection, or it may be due to an anatomic malformation. In patients with chronic sinusitis, the areas of contact are most likely to be in the ethmoid air cell system. The maxillary and frontal sinuses drain into this area, as well as the anterior ethmoid sinuses. Therefore, the disruption of normal mucociliary clearance in the ethmoid area may produce persistence of local infection and adversely affect the drainage from the frontal and maxillary sinuses. The resultant conditions provide the potential for recurrent maxillary, frontal, and ethmoid sinusitis. Clinicians and researchers have concluded that in the majority of cases, infection spreads from the ethmoids to infect the frontal and maxillary sinuses (Fig 1). Therefore, if disease in the ethmoid area can be removed and drainage returned to normal, the secondarily involved maxillary and frontal sinuses should also return to normal function unless they have been permanently damaged.[1]

The anterior ethmoid area drains into the middle meatus of the nose (Fig 1), which is near the anterior end of the middle turbinate. In many cases, there are sinus air cells within the turbinate itself. As air enters the nose, it first contacts the anterior portion of the middle turbinate. Small particles impact in this area, and mucosal changes due to toxic irritants are common at this site. One can assume that this area is a primary site for contact with bacteria and allergenic particles. The resultant swelling and possible inflammation of the mucosa in this area can cause it to come in contact with the middle meatus, where the ethmoid sinuses drain. The mucosal contact may interfere with drainage, leading to infection in the ethmoid as well as the other paranasal sinuses. This correlates with the clinical finding at surgery that the anterior ethmoid cells are more likely to be involved with disease than are the posterior ethmoid cells. It has been demonstrated in some cases that if normal ventilation and mucociliary clearance are restored in the ethmoid and middle meatus area, changes in the frontal and maxillary sinuses may resolve.

Diagnosis

The area of the anterior ethmoid cells, middle meatus and middle turbinate is poorly visualized by routine sinus x-rays. Direct routine visualization of the nose provides little information in regards to the middle meatus and the normal orifice of the maxillary sinus. This area is adequately visualized, however, by office nasal endoscopy, and an accurate assessment for anatomic defects and evidence of localized disease may be made. Computed tomographic studies are also important, as they will reveal mucosal or bony abnormalities deep in the ethmoid area that are not visible by endoscopy.

The endoscopes that are useful for both diagnosis and treatment are available in 0°, 30°, 70°, and 120° angles of view. Endoscopy is performed in the office after the nose is sprayed with a decongestant and a topical anesthetic solution. All areas of the nose may be visualized and the technique is comfortable for the patient, who requires no sedation. The inferior turbinate and inferior meatus are easily visualized. If there is a previous nasoantral window, the endoscope may be introduced through this area directly into the maxillary sinus, allowing examination of the interior of this sinus. The middle turbinate and the middle meatus are also well visualized. Depending on the anatomy of the area, the maxillary orifice may also be seen. The endoscope may be used to visualize the posterior aspects of the nose, including the nasopharynx and the eustachian tube openings.[1]

Computed tomographic images of the paranasal sinuses in a coronal plane provide excellent visualization of the deep structures of this area (Fig 2) and can be correlated with the clinical history and the findings of the diagnostic endoscopy. The presence of metal from dental reconstructions may preclude direct coronal scanning because of the marked scatter effect. In these cases, axial scans may be performed (Fig 3) and indirect coronal images may be produced from these views.

At endoscopy, common findings include a pathologic discharge, edematous or polypoid mucosa in the area of the middle turbinate, a markedly enlarged middle turbinate, and contact between the middle meatus and middle turbinate. On the CT scan, changes may be found in the anterior ethmoid cells (Fig 4), the region of the nasofrontal duct and the maxillary sinus ostia (Fig 5), as well as within the maxillary sinus.

When infection from the middle turbinate, middle meatus, and anterior ethmoid area spreads to the maxillary or frontal sinuses, changes in the symptoms, signs, and x-ray findings may indicate predominant disease in these areas. If the disease fails to respond to proper medical therapy or if recurrent disease develops, the surgical approach may be directed toward these sinuses while the primary disease within the ethmoid area may not be properly treated.

Functional endoscopic sinus surgery is aimed at reestablishing ventilation and mucociliary clearance of the sinuses. This is accomplished by the endoscopic removal of disease from the key areas of the anterior ethmoid, middle turbinate, and middle meatus area.[2] The objective is to remove, in a limited resection, the inflammatory and anatomic defects that are interfering with normal mucociliary clearance and producing the persistent inflammation. The technique is based on limited surgical resection rather than the wide exenteration that was previously performed. Therefore, an accurate anatomical diagnosis and an understanding of the underlying pathogenesis of the recurrent sinus infection are vital to predict success. This technique has been used successfully to treat chronic and recurrent sinusitis of the maxillary, ethmoid and frontal sinuses.[2, 3]

Endoscopic Sinus Surgery

Patients are considered potential candidates for endoscopic sinus surgery if they have had recurrent bouts of acute or chronic sinusitis which have been unresponsive to appropriate antibiotic or allergy

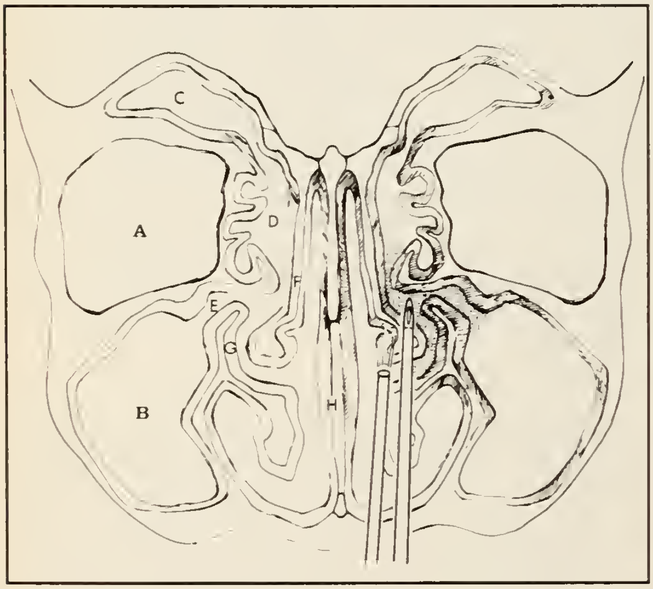

Fig 1. Coronal view of sinus area. A. Orbit B. Maxillary sinus. C. Frontal sinus D. Ethmoid sinus area. E. Maxillary sinus ostia. F. Middle turbinate. G. Middle meatus. H. Septum. Endoscopic sinus surgery is being performed on the right, removing disease (shaded) from the middle meatus, ethmoid and maxillary sinus ostia area.

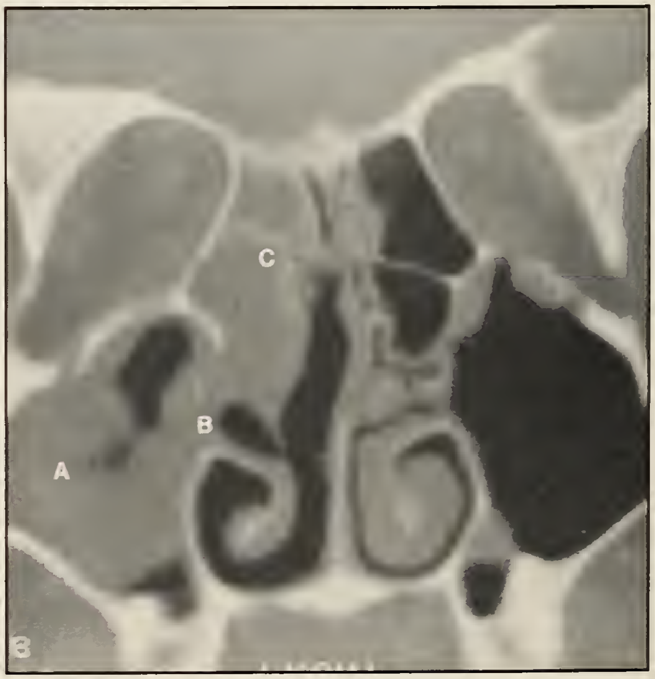

Fig 2. A. Coronal CT demonstrating diseased sinuses. A. Thick, infected mucosa in maxillary sinus. B. Disease in area of maxillary sinus ostia. C. Disease within ethmoid sinuses.

management. In addition to the routine evaluation at the initial consultation, nasal endoscopy is performed, particularly to locate any changes in the area of the middle turbinate and middle meatus. The coronal CT scans are carefully evaluated for evidence of disease in the same area. If there is any suspicion of sinus disease secondary to dental problems, appropriate referral is instituted. If there are severe nasal septal deviations that would preclude the endoscopic sinus surgery, these deformities are corrected and the sinus surgery performed at a later date. However, if the septal deflection is not severe enough to preclude the endoscopic surgery, the sinus surgery is performed first, and the septal deflection is corrected at a later date. The surgery is performed under local anesthesia in an outpatient area, usually with intravenous sedation. Depending on the extent of the surgery and whether it is unilateral or bilateral, typical cases require from 30 minutes to 1 hour of operating time, including the application of the local anesthetic. The extent of the surgical resection varies and is based on the preoperative endoscopic evaluation and the CT findings.

Using this technique, an endoscopic ethmoidectomy and sphenoidotomy, exploration of the middle meatus, and enlargement of the maxillary sinus ostia are possible (Fig 1). If there is significant disease within the maxillary sinus, such as polyps or cysts (Fig 6), a small puncture is made into the sinus through the gingival sulcus area by means of a trocar. The endoscopic instruments are then used to remove diseased tissue at this site.[2, 3] This technique is preferred to the standard Caldwell-Luc procedure, as much less morbidity is involved. The opening into the anterior wall of the maxillary sinus is approximately 5 mm in diameter, and no sutures are required. Only the diseased tissue is removed; the entire lining of the maxillary sinus is not stripped. The area of the maxillary sinus ostia may be viewed from inside the maxillary sinus via the endoscope, and any disease or anatomic deformity is noted, corrected and correlated with the opposite view of the maxillary sinus ostia obtained from the middle meatus area.

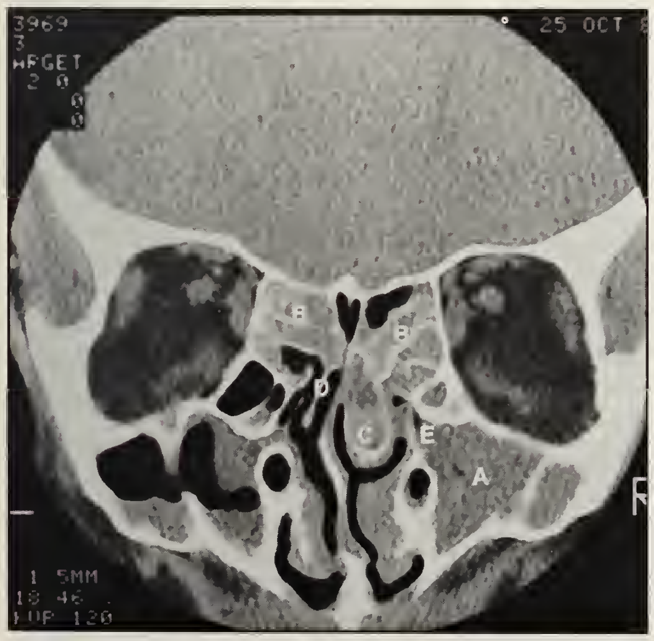

Fig 2. B. Coronal CT demonstrating extensive bilateral sinus disease. A. Disease in maxillary sinuses. B. Opacified, infected ethmoid sinuses. C. Enlarged, opacified middle turbinate. D. Normal middle turbinate. E. Opacified natural maxillary sinus ostia.

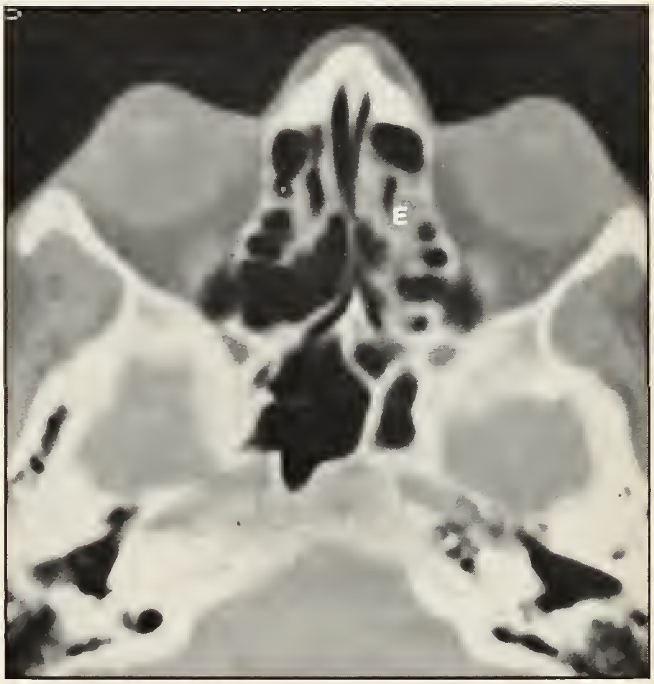

Fig 3A.

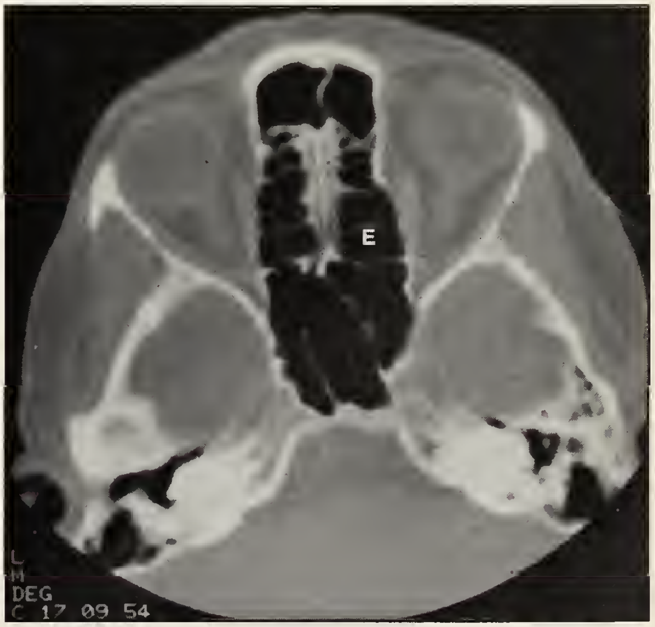

Fig 3B.

Fig 3. A. Axial scan demonstrating disease in ethmoid sinuses (E) compared to normal ethmoid air cells (E) in B.

The middle meatus is then approached, allowing access to the anterior ethmoid area. From this point the extent of the surgery is based on the preoperative findings. If an anterior ethmoidectomy is necessary, this is performed through the middle meatus area under endoscopic control, using small instruments and direct visualization. After removing the diseased anterior ethmoid cells, the frontal recess is explored and the frontal sinus ostia are identified. The frontal sinus is not actually entered with this procedure; only the diseased tissue around the orifice of the frontal sinus is removed, facilitating drainage from this sinus. If there is disease in the posterior ethmoid cells, this area is entered and the diseased tissues are removed.

The maxillary sinus ostia are visualized in the lateral wall of the middle meatus area by either the 30° or 70° telescope. If there is significant disease in this area, back-biting forceps are used to enlarge the maxillary sinus ostia anteriorly and inferiorly. Under local anesthesia, bleeding is surprisingly minimal, averaging approximately 50 ml. At the end of the procedure, antibiotic ointment is applied to the anterior ethmoid and middle meatal area. Nasal packing is not required. Patients are usually observed for two to four hours following surgery and are discharged.

They are seen two days and four days later in the office for local nasal cleansing. We have performed this procedure on patients from 14 to 70 years of age.

To date, 34 patients have undergone endoscopic procedures for chronic or recurrent sinusitis. Bilateral procedures were performed in 29 patients and unilateral in five. Two patients required preoperative septoplasty before the sinus surgery could be performed. Six patients had previously undergone Caldwell-Luc procedures and four had previous nasal antral windows. Four patients had obvious nasal polyps; the remainder simply had had recurrent sinus infections. One patient had a history of unilateral recurrent pain in the infraorbital nerve area whenever he had a cold or congestion. Computed tomographic studies revealed a small cyst located directly on the infraorbital nerve area in the roof of the maxillary sinus (Fig 7). This was removed through the anterior wall of the maxillary sinus under endoscopic control, and the patient is now symptom-free. All patients have been observed at least a year postoperatively.

There were no major complications such as bleeding, cerebrospinal fluid leak or visual problems in any patient. No patient required postoperative nasal packing. Twenty-seven patients had enlargement of the maxillary sinus ostia performed and to date, all continue to have functionally patent sinuses, with no recurrent disease. Five patients underwent canine fossa puncture to allow entrance to the maxillary sinus. Two of these patients had temporary postoperative dysesthesia of the upper lip, which resolved spontaneously.

Discussion

Endoscopic sinus surgery reduces the necessity for the external wide exposure approach and exenteration, which was previously typically performed for recurrent sinus disease. The endoscopes provide excellent illumination of the surgical field and the various angles of view provided by the instruments enable the operator to remove disease which previously could not be visualized except with the much more extensive external exposure. In other series, the primary postoperative problem has been the formation of adhesions between the middle turbinate and the lateral nasal wall, creating the possibility of recurrent disease. These adhesions can be minimized and possibly prevented by avoiding trauma to the lateral portion of the middle turbinate and by exercising careful postoperative cleansing of the ethmoid area. In the

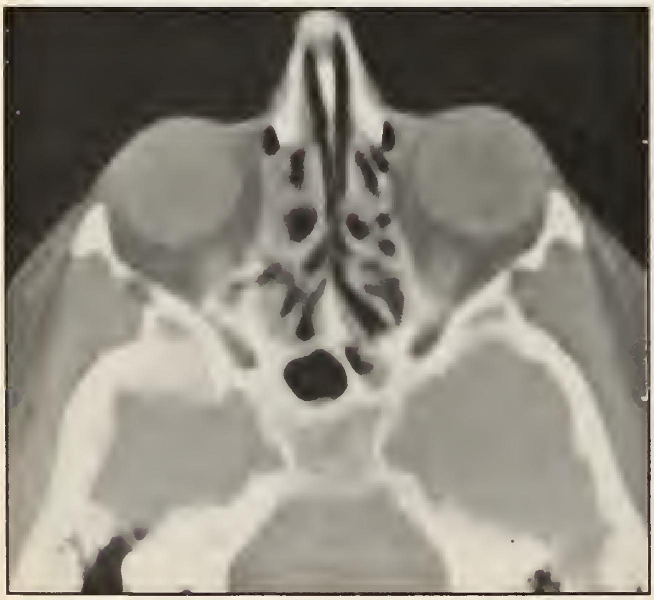

Fig 4. Bilateral ethmoid disease. Note opacifications in both left and right ethmoid areas.

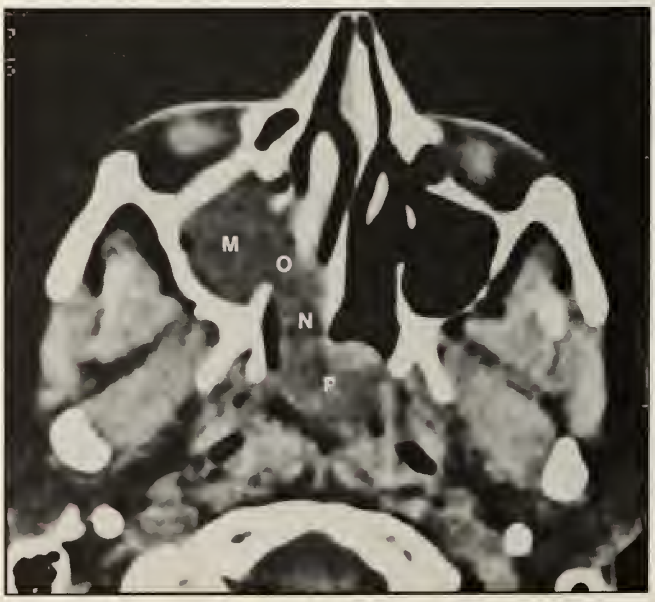

Fig 5. Polyp within left maxillary sinus (M) protruding through the maxillary ostia (0) into the nose (N) and nasopharynx (P).

past, it has been taught that surgical manipulation of the maxillary ostia causes stenosis. However, in this series and in others, this has not been found true. It is theorized that enlargement of the maxillary sinus ostia anteriorly and inferiorly does not predispose to stenosis, whereas circumferential enlargement of the ostia may produce circumferential scarring and increase the risk of stenosis. It is to be emphasized that in frontal sinus disease, the surgery is directed toward the ethmoid cells close to the frontal sinus ostia rather than directly in the frontal sinus duct. It is still our current thinking that direct trauma to the nasal frontal duct has a high likelihood of producing postoperative stenosis. However, surgical removal of disease near the orifice without direct manipulations in the duct itself is believed to be safe if properly executed.

The trend in functional endoscopic surgery is to remove less of the diseased mucosa in the maxillary sinus. It is predicted that by treatment of the anterior ethmoid area and enlargement of the maxillary ostia to facilitate normal physiologic mucociliary clearance and drainage, that what was previously considered to be irreversible disease in the maxillary sinus may indeed be reversible. Surgeons now tend to be more conservative in removal of sinus mucosa, particularly from the maxillary sinus, because of postoperative complications and recurrence of disease following the standard Caldwell-Luc procedure.

The use of the sinus endoscope is technically more demanding and requires an intimate knowledge of the anatomy and possible complications. Use of the technique is possible because of improved diagnostic accuracy of the initial endoscopic examination in the office, combined with computed tomographic studies.[4] Its advantages are minimal trauma to normal nasal and sinus structures, and conservative removal of disease. A return to the natural physiology and mucociliary clearance and function of the sinuses is thus made possible. The technique is applicable to a wide variety of chronic sinus problems and has improved both our diagnostic and therapeutic ability in this area. It is cost efficient as an outpatient procedure, is comfortably tolerated, and may be performed under lcoal anesthesia for patients from teenagers to older adults.

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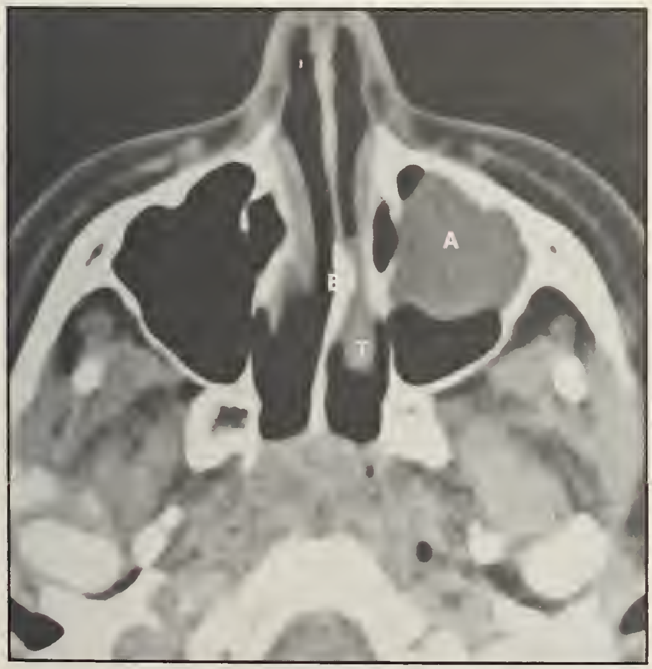

Fig 6. Disease in right maxillary sinus (A), which was removed via a small endoscope through the anterior maxillary sinus wall. Note deviated septum (B) making contact with the turbinate (T).

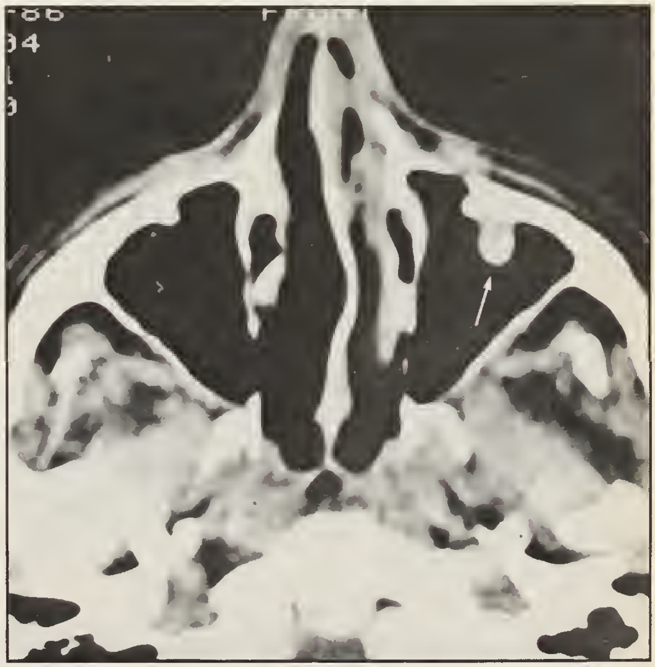

Fig 7. Small cyst (arrow) on infraorbital nerve area within right maxillary sinus.

Neurotropic Melanoma of the Head and Neck

Walter A. Schroeder, Jr., D.O., M.D., Mark W. Hosler, M.D., and
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Cape Girardeau, Missouri

Neurotropic melanoma is a rare malignancy characterized by invasion of the nerve sheath, frequent recurrence, and difficult control. The case reported here is believed the first to demonstrate tumor involvement of the phrenic nerve.

Melanomas comprise slightly more than 1% of all malignancies, and are responsible for approximately 0.74% of all deaths from cancer.[1] The three clinical pathologic groups of melanomas usually recognized are lentigo maligna, superficial spreading, and nodular melanoma. Even though melanomas are usually classified into one of these three groups, histological variance within these groups is well recognized. Conley[2] reported a rare variant of melanoma that was described as "a rare and hitherto not described variant of spindle cell melanoma occurring in the head and neck region." This variant was termed desmoplastic melanoma.

Another variant, neurotropic melanoma, is actually a variant of the desmoplastic melanoma. This was previously described by Reed and Leonard,[3] and is appropriately named "neurotropic melanoma," based upon its propensity for perineural invasion. Its characteristic spread along the nerve sheath often renders this lesion difficult to control, even with multiple attempts at surgical resection.

A review of the literature by Gentile and Donovan[4] turned up 47 reported cases, prior to these authors' report of two additional cases. Our case appears to be the 50th case reported in English literature. This is the first case which demonstrates phrenic nerve invasion by the tumor.

We present the case of a 78-year-old man who had neurotropic melanoma in the postauricular region, and whose clinical course was marked by the characteristic difficulty in achieving local control of this disease. We also provide analysis of previously reported cases of neurotropic-desmoplastic melanoma.

Case Report

The patient was a 78-year-old man who presented in August, 1979, with a pearly-white, elevated lesion, approximately 3 mm in diameter, located in the right postauricular region. The central portion of the lesion was elevated. The patient did not know exactly how long the lesion had been present. His general medical history was unremarkable apart from adult-onset insulin dependent diabetes.

The patient underwent primary excision of the lesion, with uneventful closure. The lesion was interpreted as a malignant melanoma, Clark level IV, with changes on the margin suggesting superficial spreading type of melanoma. Specifically, it was interpreted as spindle cell type.

Subsequently, the patient was treated with a wide excision and application of a split-thickness skin graft to the postauricular region. The patient had no palpable neck nodes, and refused an elective neck dissection. Chest x-ray findings were normal. His serum profile was normal except for a slight elevation of the serum glucose. The pathologic examination showed no evidence of residual malignant melanoma.

In August, 1982, the patient was seen again with an apparent recurrence in the right parietal-temporal region. The recurrent lesion was a grayish-white nodular mass, measuring approximately 1 x 3 cm. A second wide excision was performed. However, the surgeon was unable to obtain tumor-free deep and medial margins. The pathological findings were positive for medial and deep margins, with a histopathologic diagnosis of recurrent spindle cell melanoma showing neurotization.

Once again, the patient refused further surgery.

Consultation with a radiation oncologist was obtained in June, 1982. The patient received 4,250 rads of orthovoltage treatment. He tolerated the radiation well, but noticed a right facial nerve paralysis one month following radiation treatment.

The patient, aware of the presence of residual tumor, returned in July, 1983, with a 1 cm nodule beneath the surgical scar in the inferior aspect of the right postauricular region. The nodule was close to the angle of the mandible and the tail of the parotid gland. This mass did not appear to be fixed, and there was no other palpable adenopathy in the patient's neck. His serum profile remained normal with the exception of a mild elevation in his serum glucose. His chest x-ray revealed some interstitial infiltrate in the right middle lobe. Surgery was again performed, with excision of the mass in the right postauricular region and tail of the parotid. The specimen was diagnosed as a poorly differentiated malignant neoplasm, consistent with recurrent malignant melanoma. There was a pronounced degree of fibrosis. The local pathologic interpretation was confirmed by the Armed Forces Institute of Pathology.

The patient then received alternating orthovoltage and cobalt 60 radiation therapy on a twice-a-day schedule. A total of 5,000 rads was delivered over 10 treatment days in the area of the angle of the right mandible and the submandibular region.

In June, 1985, the patient had a 2-cm mass of lymph nodes in the right mid-jugular region. He complained of shoulder pain as well as pain in the right neck adjacent to the palpable nodal mass. In addition, a right shoulder droop was noted. A computed tomographic (CT) scan revealed evidence of a 1.5-cm mass of nodes overlying the sternocleidomastoid muscle, and there was an area of central necrosis within this mass (Fig 1). There were two smaller masses medial to the sternocleidomastoid muscle, which were interpreted to be metastatic lymph nodes. The patient's chest x-ray revealed elevation of the right hemidiaphragm (Fig 2).

The patient refused any major neck surgery, but did consent to a localized excision of the palpable neck mass. At operation, the tumor was noted to be encroaching upon the upper portion of the great auricular nerve near the middle third of the sternocleidomastoid muscle, following the great auricular nerve. The tumor appeared to course inferiorly, deep, and medially toward the jugular vein. The mass was sharply dissected away from the spinal accessory nerve. It had encroached upon the fascial carpet overlying the scalene muscles, and encompassed portions of the cervical plexus and extended up to the level of the skull base. It was impossible to surgically dissect the great auricular nerve from the tumor mass, and a portion of the nerve was sacrificed. A portion of the tumor had encroached upon the phrenic nerve, which

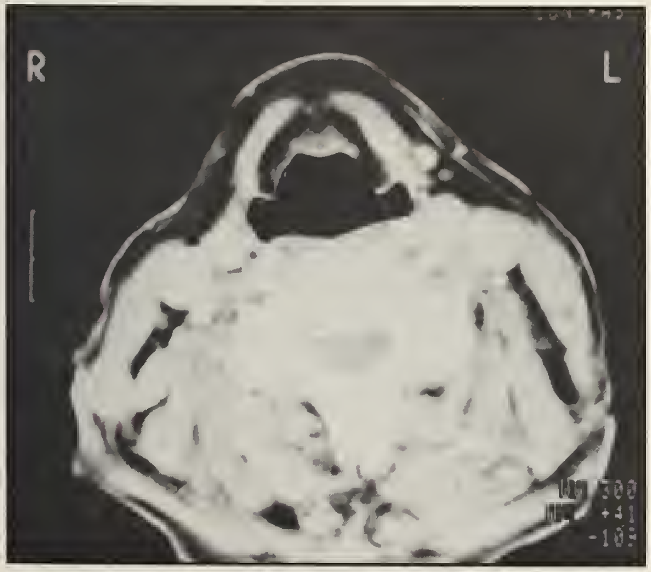

Fig 1. Lymph node mass overlying posterior portion of the right sternocleidomastoid muscle. Masses also noted medial to the muscle.

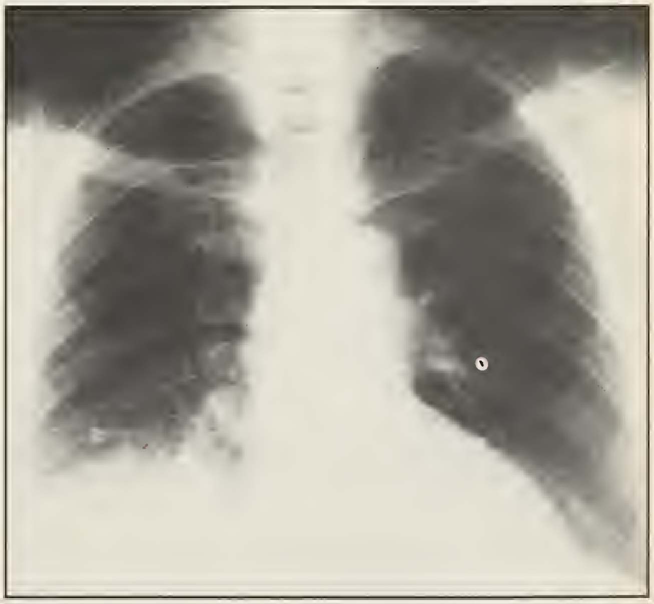

Fig 2. Elevation of the right hemidiaphragm, believed caused by invasion of the phrenic nerve. Previous chest x-rays findings were normal.

was dissected from the bulk of the tumor. The patient tolerated the procedure well. The final pathology report gave the diagnosis of recurrent neurotropic melanoma. The patient's immediate postoperative course was uneventful, and he refused all other treatment. Much of his neck pain resolved, and residual pain was well controlled with analgesics. He died, with disease, 13 months following the final surgery.

Pathologic Findings

The specimen measured 6 cm x 2 cm x 1.5 cm and consisted of a red to tan, ovoid mass with a smooth and glistening surface. Sectioning revealed indurated flesh-colored cords of soft tissue grossly suggestive of tumor.

Light microscopy revealed a malignant spindle cell tumor arranged in nests and fascicles separated by a desmoplastic stroma to produce a neuroid appearance (Fig 3). The tumor cells composing the malignant fascicles contained abundant amounts of acidophilic cytoplasm, while tumor nuclei were markedly hyperchromatic, irregular and often huge. There was striking clumping and clearing of nuclear chromatin, and prominent irregular acidophilic nucleoli were often present (Fig 4). Consistent with the highly malignant appearance of this tumor, mitotic figures and atypical mitotic figures were very frequent.

Review of the re-excision of the original lesion revealed residual lentigo maligna (Fig 5). This fits well with the fact that a majority of neurotropic melanomas are found to arise from lentigo maligna when the primary area is other than the lip. The present case arose from the posterior auricular area with lentigo maligna retrospectively established as the precursor lesion.

Discussion

Desmoplastic melanoma is a rare variety of malignant melanoma which shows a predilection for the head and neck.[3-4] One variant of desmoplastic melanoma exhibits a propensity for spreading along the nerve sheath,[3-7] hence the term "neurotropic." This tumor is characterized by multiple recurrences, local infiltration, and often by local metastases. A subcutaneous nodule often develops at the surgical site within two years after primary excision of the initial lesion.[2] This subcutaneous tumor is often fixed to deeper tissues, rendering the lesion increasingly difficult to excise.

This propensity of neurotropic melanoma to invade peripheral or cranial nerves renders the lesion locally aggressive. Unfortunately, the neural invasion is seldom recognized prior to the obvious clinical findings of a nerve paralysis (e.g., peripheral facial nerve paralysis). The development of cranial neuropathy is demonstrated in previously reported patients, and indicates a poor prognosis.[2-4] Reed and Leonard[3] concluded that the intracranial tumor noted in several of their patients was indeed related to either a perineural or intraneural extension. We believe the perineural invasion of the phrenic nerve in our patient resulted in a phrenic nerve paralysis and subsequent elevation of the right hemidiaphragm (Fig 2). We know of no other case report in which this clinical manifestation was recognized. The invasion of the phrenic nerve in this particular case was diagnosed both upon intraoperative findings and microscopic study (Figs 3, 4). The invasion of the great auricular nerve probably was responsible for part of our patient's neck pain. Likewise, the shoulder droop could have been secondary to invasion of the spinal accessory nerve. The CT scan suggested the presence of multiple masses within the neck on either side of the sternocleidomastoid muscle (Fig 1). In addition, there appeared to be tumefaction extending to the skull base.

It is generally recognized that the sun-exposed areas of the body are more likely to be involved with malignant melanoma. Of the 49 previously reported cases of either desmoplastic or neurotropic melanomas, 40 were located in some region of the head and neck.[4] The most common site on the head and neck was the cheek.[4] Even though malignant melanomas generally tend to be slightly more common in women, melanomas of the head and neck are at least twice as common in men.[8, 9] Neurotropic melanoma appears to be no exception, with a male:female ratio of 1.42:1, as reported by Gentile and Donovan.[4] One of the most

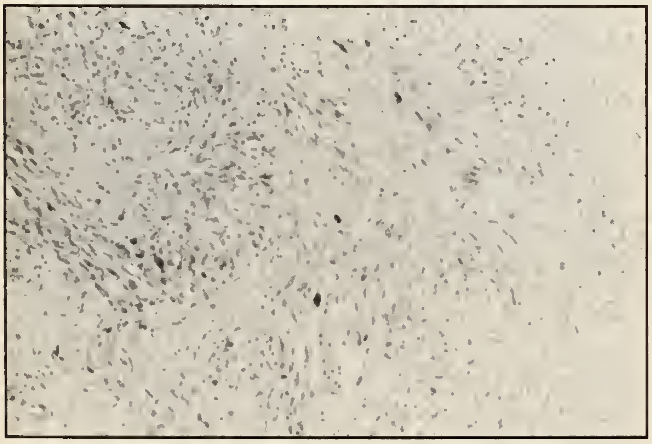

Fig 3. Tumor fascicles with neuroid appearance.

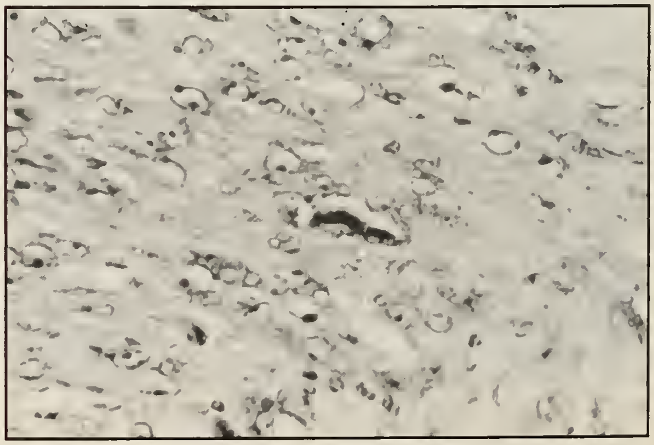

Fig 4. Prominent giant cells with irregular nuclei.

striking characteristics of this lesion is the development of local recurrence.[3-7] Of the 22 cases reported by Reed and Leonard,[3] 17 patients had local recurrence. Many other authors have also reported high incidences of local recurrence within one to two years of the discovery and excision of the primary lesion.[3-7] Because of the extensive scarring that characterizes many recurrent lesions, surgical experience has shown that tumor-free margins are often difficult to obtain.[3-7]

Treatment

The treatment of choice for the initial lesion is a wide surgical excision.[4] Considering the aggressive local recurrence that follows inadequate excision of the primary lesion, this treatment is the single most effective step in the care and control of the disease. Also, the histopathologic examination of the peripheral margins of the widely resected specimen is probably more easily performed. The margins of the recurrent lesions are often difficult to interpret due to the extensive fibrosis that accompanies the recurrences.[2-7] Surgical treatment failures are most often the result of inadequate local excision and the failure to remove tissue in which perineural invasion has already occurred. As with any other malignancy of the neck, invasion of the tumor into the skull base decreases the likelihood of a surgical cure. We know of no authors who have reported successful arrest of the extension of the neurotropic melanoma once it has gained access to the central nervous system.

The treatment of any type of malignant melanoma involving the neck has been controversial. Most surgeons agree that the presence of metastatic disease of the neck alters the prognosis of the disease, regardless of the primary source. In the case of the N_0 neck, Bernstein[10] encourages elective neck dissection in patients presenting with malignant melanoma of the head and neck. Of the 360 cases reported by Simons[9] in 1972, 64% of the patients observed for five years were alive and free of disease after wide local excision and prophylactic radical neck dissection. Of those patients treated by local excision alone, the five-year survival rate fell to 45%. Perhaps most important, the patients treated by initial excision and delayed therapeutic neck dissection showed only an 18% survival rate. These findings would suggest the superiority of the immediate prophylactic neck dissection over the delayed therapeutic neck dissection. Sisson and McMahan[10] suggest wide local excision for tumors classed Clark levels I and II, with a radical neck dissection performed only for palpable adenopathy. They questioned any beneficial effect for elective neck dissection in cases of Clark levels III and IV tumors, due to probable widespread dissemination of the disease. Biologically, malignant melanoma does not usually behave as epidermoid carcinoma does,[11] and the time period between occurrence of local and distant metastases is believed to be brief. Conley[10] has provided data which show that the five-year survival rate is 15% with palpable neck disease, but increases only to 25% when the metastatic disease is occult. Sisson and McMahan[10] believe this is not statistically significant to warrant neck dissection in every case. However, the locally aggressive behavior of neurotropic melanomas is unlike the general varieties of malignant melanoma. Gentile and Donovan[4] report the incidence of metastasis to be 50%. Considering the high incidence of local metastases reported in previous cases, an elective neck dissection should always be considered. We are not aware of any data comparing the survival rates of patients with neurotropic melanoma who undergo an elective neck dissection versus those who undergo therapeutic neck dissection.

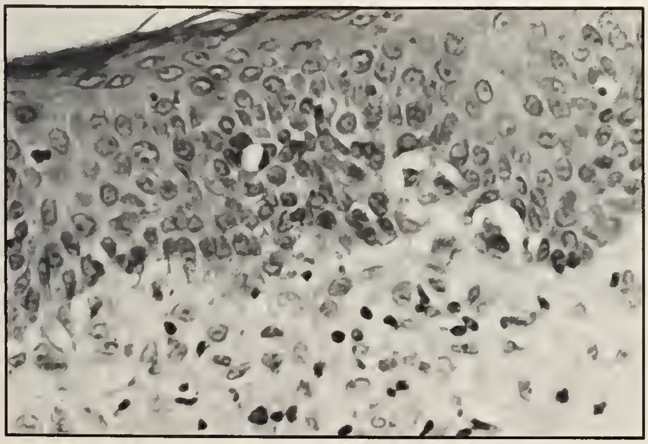

Fig 5. Lentigo maligna noted at tumor margins.

Malignant melanomas of all types are generally considered to be radioresistant tumors.[12-14] This radioresistance is suggested to be due to the capacity of the melanomas to absorb radiation and their possible ability to repair sublethal damage.[12-14] There does not appear to be variation in the degree of sensitivity among the different types of malignant melanomas. The possibility of hypoxic cells being present in melanomas also exists.[13] There have been some reports describing the successful use of radiation treatment as primary treatment, with single-dose fractions ranging anywhere from 3,000 rads to an accumulative dosage of 15,000 rads.[15] Because of the capacity of the melanoma cells to repair sublethal damage, large doses per fraction might be necessary to obtain therapeutic effect.[13] The data regarding the radiation therapy of malignant melanomas are not conclusive, but there may be a role for high-dose fractionation in the treatment of residual or recurrent neurotropic melanomas. We know of no reported cases of neurotropic melanoma in which the primary treatment modality was any type of radiation therapy, and there are no data to suggest that primary radiation therapy should replace wide local excision in the treatment of this disease.

Intra-arterial administration of cisplatin has been shown to be well tolerated by patients, and is thought to be active in the treatment of malignant melanoma.[16] Whether or not this regimen is specifically active against neurotropic melanoma has not been established. Dimethyltriazeno imidozole carboxamide (DTIC) has been considered to be the single most active agent, with an approximate response rate of 20% of patients and a mean duration of response of approximately four to five months.[16] There appears to be no chemotherapeutic protocol effective in the initial treatment of neurotropic melanoma, and its role is presently limited to palliation.

The survival statistics of neurotropic melanoma are poor regardless of the treatment modality. Gentile and Donovan's [4] study reviewed the cases of the first 47 patients reported with neurotropic melanoma. Eighteen of these 47 patients (37%) had died with evidence of active disease. Eleven of the 47 patients (22%) were alive, with local or metastatic disease still active at their last follow-up visit. Four of those 11 patients had evidence of intracranial disease. Only 29% were apparently free of disease. Five of the 47 had been lost to follow-up, and one had died from an unrelated cause. One of Gentile and Donovan's patients was alive with microscopic involvement of the brain stem, and a second patient was alive with active intracranial disease. Our patient died with intracranial disease 13 months following his last operation.

Conclusion

This case demonstrates several of the most striking characteristics of this disease: local recurrence, the development of firm subcutaneous nodules, the difficulty in obtaining tumor-free margins upon repeated surgical excisions, and the propensity toward neural invasion with resultant cranial neuropathies. A review of previously reported cases reveals that the best treatment modality appears to be early, wide surgical excision. The role of careful and complete postoperative follow-up must be stressed in the management of all these patients. The early recognition of neurotropic melanoma is most important, and the need for the early histopathological diagnosis of this variant of desmoplastic melanoma is crucial for successful treatment of these patients.

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Severe Head Injury

Stabilization and Neurological Evaluation

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How a patient with severe head injury is managed in the acute phase determines, to a large degree, his eventual outcome. The step-by-step management of the head-injured patient is outlined, from emergency admission to transfer for appropriate aftercare.

Head injury is a major medical and social problem in our society: it accounts for 40% of all fatalities from trauma, and, in those that survive, often results in significant neurological deficit. The eventual outcome is dependent not only on the initial effects of the trauma but on the progressive changes that follow, including brain edema, hematoma expansion, obstruction of spinal fluid pathways, disruption of cerebral autoregulation with resultant hyperemia or ischemia, and infection. Although little can be done for the brain tissue severely disrupted at the initial impact, the physician can play a significant role in abating the progression of these secondary changes. This article outlines the physician's role in the acute phase of severe head injury.

History

If possible, a history of the injury should be obtained prior to the patient's arrival in the emergency room. The first consideration is to determine the type of injury. Rapid acceleration and deceleration injuries, such as with motor vehicle accidents and falls from heights, cause the brain to shift within the skull. This can lead to diffuse injury of the brain, polar contusions (especially in the frontal and temporal lobes), and subdural hematomas (due to tearing of small bridging veins from the brain to the dura or to venous sinuses). Direct blows to the head, as with assaults, are more likely to produce focal injury, including lacerations and contusions of the scalp, linear or depressed skull fractures, and brain contusions.

The next consideration is to determine the current vital signs. The physiologic status of the head-injured patient has a great influence on the neurological outcome. The neurologic condition of the patient should be obtained, including pupil size and responsiveness, level of awareness, and degree of motor responses. The time of injury and how the patient's condition has changed since the injury is important. A rapidly deteriorating course may indicate the presence of an expanding mass lesion, increasing the urgency of a correct evaluation. Finally, one should inquire whether other associated inquiries are present and whether any significant medical history is available.

Stabilization

Airway: With the physician's initial patient contact, the ABCs of early management (airway, breathing and circulation) take precedence. Although various therapeutic steps can often be performed simultaneously, assessing the adequacy of the airway is paramount. The most common cause of death in patients with a potentially salvageable head injury is cerebral anoxia due to airway obstruction or aspiration. In the drowsy or comatose patient, the posterior pharynx and tongue become hypotonic, causing airway obstruction. The glottis remains open, making aspiration more likely, and sighing and coughing are diminished, leading to atelectasis. These factors, in addition to possible maxillofacial or neck injuries affecting airway patency, make intubation vital in the management of severe head injury.

Breathing: The second step in stabilization is the maintenance of adequate ventilation. Both hypoxia and hypercarbia lead to progression of the brain injury. The appearance of normal respirations cannot be relied upon as an accurate indicator of adequate ventilation, because as many as 65% of comatose head-injured patients who are breathing spontaneously without distress have been shown to be hypoxic.[1] The physician should therefore assume that the patient is hypoxic and administer 100% oxygen until arterial blood gas measurements are available, at which time the oxygen can be reduced to the level that will maintain adequate oxygenation. One should also assume that the intracranial pressure is elevated and begin hyperventilation to a PCO_2 of 25-30 mmHg. This can usually be accomplished using a tidal volume of 12-15 ml/kilogram of body weight and a rate of 12-15 breaths per minute.

Circulation: The third step in stabilization is the maintenance of adequate circulation. If cerebrovascular autoregulation is impaired, the cerebral blood flow (CBF) will become passively dependent on the systemic arterial pressure. Hypotension will thus reduce CBF and cause further brain injury, making it essential that hypotension be aggressively treated. One should keep in mind that the hypotension is rarely due to the head injury itself, and another cause should be sought. Exceptions include infants and patients with large scalp lacerations, venous sinus tears or impending brain death.

Mannitol, an osmotic diuretic useful in lowering elevated intracranial pressure, must not be used in the presence of hypotension since it will further lower the systemic pressure and thus the CBF. If the blood pressure is stable above 100 mmHg, and there is a deterioration of consciousness and the development of either a unilateral dilated pupil or hemiparesis, mannitol at 1 gm/kg dose should be given intravenously.

Neurological Examination

As the patient's condition is stabilized, the physician's attention can be directed to closer evaluation of the neurologic status. The order in which the steps in the neurological examination are performed is dependent on the situation. The following, however, should be assessed in all cases.

Consciousness: The Glasgow Coma Scale is a standardized method for assessing the level of consciousness (Figure). It consists of determining the patient's eye-opening, and verbal and motor responses. In the normal or highest level of consciousness, the patient will have spontaneous eye opening, be able to obey commands, be oriented, and respond appropriately to surroundings. As consciousness is impaired, the level of responsiveness declines. A numerical responsiveness score can be determined by the sum of the best response in each category. Those with a score of 8 or less are considered to have a severe head injury.

Glasgow Coma Scale

Eye Opening	
Opens eyes spontaneously	4
Opens eyes to voice	3
Opens eyes to pain	2
No eye opening	1
Best Verbal Response	
Appropriate and oriented	5
Confused conversation	4
Inappropriate words	3
Incomprehensible sounds	2
No sounds	1
Best Motor Response	
Obeys commands	6
Localizes to pain	5
Withdraws to pain	4
Abnormal flexor response	3
Abnormal extensor response	2
No movement	1
Total Coma Score	3-15

Pupils: One of the most telling portions of the examination is evaluation of pupillary size and reactivity. The third cranial nerve exits from the midbrain, passes over the tentorium and runs next to the medial temporal lobe (uncus). The parasympathetic fibers which cause pupillary constriction are located around the periphery of the nerve. Unilateral shifts of the brain due to swelling, contusion, or hematoma can push the uncus onto the third nerve. If the shift of the brain is downward through the tentorium, the nerve may be tethered on the tentorial edge. By either mechanism, conduction in the parasympathetic fibers becomes impaired, causing the pupil to dilate and become unreactive due to the unapposed sympathetic dilatory input. The third nerve thus functions as an important early warning signal of cerebral herniation. The recently described "oval pupil" represents very early third nerve compression with involvement of only a portion of the parasympathetic fibers.[2] If the compression is not relieved, the pupil will become progressively larger, round and unreactive.

Eye Movements: The position of the eyes at rest, as well as the presence of nonconjugate gaze, forced gaze, nystagmus, and ocular bobbing should be noted. Testing of the oculocephalic (doll's eyes) and oculovestibular (ice water irrigation of the ears) responses is not usually required at the initial evaluation unless there is a question of brain death. If tested, the doll's eye maneuver should only be performed after the presence of a cervical spine injury has been ruled out. Irrigation of the ears should only be performed after the presence of a traumatic tympanic membrane rupture is ruled out, in order to avoid contamination of the cerebrospinal fluid.

Cranial Nerves: Examination of the pupils and eye movements provides information regarding the function of the II, III, IV and VI cranial nerves. Although a detailed examination of the other cranial nerves is not essential at this point, a few others can be quickly tested. The function of the fifth and seventh cranial nerves is assessed by stimulating the cornea: a blink response indicates intact sensory (fifth) and motor (seventh) components. If there is no ipsilateral blink to corneal stimulation, but an intact contralateral response, palsy of the ipsilateral facial nerve is suspected. Seventh nerve function can also be assessed by observing the symmetry of facial grimace in response to painful stimuli. The presence of cough and gag response indicates intact ninth and tenth cranial nerves.

Examination of Head: The scalp is examined for lacerations and contusions, and their size and location are noted. Lacerations should be examined with a sterile glove for the presence of fractures. Periorbital ecchymosis ("raccoon's eyes") indicates anterior basal skull fracture and is due to blood leaking from the site of injury to the soft tissue around the eyes. At times it is difficult to differentiate this condition from direct trauma to the eyes themselves, and at other times both may coexist. Examination for other signs of direct injury to the eye, such as conjuctival hemorrhage, can be helpful in making the distinction. Rhinorrhea should be searched for and indicates fracture of the sphenoid, frontal or ethmoid bones. Otorrhea indicates basilar fracture of the temporal bone. Other signs of basilar temporal bone fracture include hemotympanum and ecchymosis of the mastoid eminence (Battle's sign).

Flaccidity of all extremities may be due to pontomedullary injury; however, it may also represent severe intoxication with alcohol, barbiturates or narcotics. The possibility of spinal cord injury with quadriplegia should also be considered.

Motor Exam: The strength and tone of all the extremities are examined. Observation of the patient's movements during stabilization may have already revealed much about the motor function. In the unconscious patient, a noxious stimulus is often required to produce a response. The action of each extremity in response to pain, whether localizing, withdrawing, or posturing, is noted. In flexor posturing (decorticate) the shoulders are adducted and retracted, the elbows are flexed and the forearms are pronated. The lower extremities will be either in flexion or extension. This pattern is usually produced by a diencephalic injury. In extensor posturing (decerebrate) the arms are extended and pronated and the wrists and fingers palmar flexed. The legs are rigidly extended and the feet are plantar flexed. This occurs with lesions of the midbrain and pons, although it has also been seen with deep supratentorial injuries. Flaccidity of all extremities may be due to pontomedullary injury; however, it may also represent severe intoxication with alcohol, barbiturates or narcotics. The possibility of spinal cord injury with quadriplegia should also be considered.

Radiographic Studies

Spine Films: All patients with severe head injury should be considered to have unstable spines until proven otherwise. A lateral cervical spine film is taken and all seven vertebrae must be visualized, including the junction between C7-T1. Pulling down on both arms or taking a "swimmer's view" is usually required to visualize the C7-T1 interspace. If questionable areas are noted on the plain films, immobilization of the neck should be maintained and a computed tomography (CT) scan of the area performed.

Anterior-posterior and lateral films of the thoracic and lumbar spine should be obtained. These may be performed later, so long as the patient is kept supine and transported with protection to the spine until the presence of fracture has been ruled out.

Chest Radiograph: A chest radiograph is crucial because lung injuries can affect brain function. Pneumothorax, hemothorax, flail chest, and sucking chest wounds not uncommonly accompany head injury. If not recognized early, these injuries may lead to death or aggravation of brain injury from the resultant hypoxia. Pulmonary contusions, traumatic aortic aneurysms, and diaphragmatic hernias may also be discovered.

CT Scan: Following the history and neurological examination, various cranial injuries may be found or suspected. The CT scan will allow the visualization of many of these injuries as well as their effects on surrounding structures. Linear, depressed, and basilar skull fractures, along with their associated changes, such as blood in the sinuses, or air within the cranial cavity, can be seen. Hemorrhage can be localized as being epidural, subdural, subarachnoid, intraparenchymal, or intraventricular. Contusions, shifts of the brain tissue, and herniation can be visualized, the presence and degree of post-traumatic hydrocephalus can be determined, and the location and effect of foreign objects, as in gunshot or impalement injuries, can be assessed.

Contrast-enhanced CT scans are not routinely obtained for head injury since extravasated blood is easily visualized on the standard scan. However, if the history suggests that the patient may have had an intracerebral event, prior to the accident, such as a seizure or subarachnoid hemorrhage, a contrasted scan should be performed. The contrasted scan will provide better visualization of aneurysms, arteriovenous malformations, and tumors.

With the clinical and radiographic evaluations, various major and minor injuries will be discovered. A decision will then need to be made as to whether surgical therapy is indicated or whether the patient should be transferred directly to an intensive care unit. For definitive surgery and intensive care management the transfer of the patient to a facility with a head injury management program has been shown to improve outcome.[3, 4] The institution of the above measures helps to protect the brain from secondary injury as a result of trauma while preparations for any possible surgery can be completed, and begins a therapeutic program that will be continued in the intensive care setting.

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New Members

■ **Susan S. Berdy, M.D.,** 216 S. Kingshighway, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Berdy received her preliminary education at Brown University and obtained her medical degree at the St. Louis University School of Medicine in 1984. She completed her residency at Jewish Hospital of Washington University, St. Louis, MO. She specializes in internal medicine.

■ **Mari Anne Butterfield, M.D.,** 618 Pinehurst, Lee's Summit 64063, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Butterfield received her preliminary education at the University of Tulsa and obtained her medical degree at the University of Kansas Medical School in 1977. She completed her residency at the Kansas University Medical Center, Kansas City, MO. She specializes in anesthesiology.

■ **Danny K. Carroll, M.D.,** 17053 S. 71 Highway, Belton 64012, has become a member of the West Central County Medical Society. Dr. Carroll received his preliminary education at the University of California-Davis and obtained his medical degree at the University of Arizona-Tucson in 1980. He completed his residency at the University of Missouri, Kansas City, MO. He specializes in orthopedic surgery.

■ **Anthony F. Catanzaro, Jr., M.D.,** 6150 Oakland Ave., St. Louis 63139, has become a member of the St. Louis Metropolitan Medical Society. Dr. Catanzaro received his preliminary education at St. Louis University and obtained his medical degree at St. George's University School of Medicine in 1985. He is completing his residency at Deaconess Hospital, St. Louis, MO. He specializes in internal medicine.

■ **Steven G. Charapata, M.D.,** Suite 1381, 6400 Prospect, Kansas City 64132, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Charapata received his preliminary education at the University of Wisconsin-Milwaukee and obtained his medical degree at the University of Wisconsin Medical School in 1980. He completed his residency at Hartford Hospital, Hartford, CT. He specializes in anesthesiology.

■ **John W. Clouse, M.D.,** 1423 N. Jefferson Ave., Springfield 65802, has become a member of the Greene County Medical Society. Dr. Clouse received his preliminary education at Hastings College and obtained his medical degree at the University of Nebraska Medical School in 1980. He completed his residency at the Mallinckrodt Institute of Radiology, Washington University, St. Louis, MO. He specializes in radiation oncology.

■ **Dale E. Doerr, M.D.,** 3535 S. Jefferson, Suite 317, St. Louis 63118, has become a member of the St. Louis Metropolitan Medical Society. Dr. Doerr received his preliminary education at Washington University and obtained his medical degree at the St. Louis University School of Medicine in 1980. He completed his residency at St. Louis University Hospitals, St. Louis, MO. He specializes in orthopedic surgery.

■ **Mark L. Epstein, M.D.,** Spelman Professional Bldg., P.O. Box 412, Smithville 64089, has become a member of the Clay-Platte County Medical Society. Dr. Epstein received his preliminary education at the University of Kansas and obtained his medical degree at the University of Kansas in 1980. He completed his residency at Truman Medical Center, Kansas City, MO. He specializes in general surgery.

■ **William A. Hardman, M.D.,** 3525 S. National, Springfield 65807, has become a member of the Greene County Medical Society. Dr. Hardman received his preliminary education at Johns Hopkins University and obtained his medical degree at Johns Hopkins University in 1979. He completed his residency at Grady Memorial Hospital, Atlanta, GA. He specializes in general surgery.

■ **Isam S. Hawatmeh, M.D.,** 3203 S. Grand Blvd., St. Louis 63118, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hawatmeh received his preliminary education at the University of Parma and obtained his medical degree at the University of Parma in 1978. He completed his residency at IbnSina Hospital, Jordan. He specializes in internal medicine.

■ **Jacques A. Herzog, M.D.,** 3660 Vista Avenue, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Herzog received his preliminary education at the University of Missouri-Kansas City and obtained his medical degree at the University of Missouri-Kansas City in 1980. He completed his residency at Baylor College, Houston, TX. He specializes in otolaryngology.

■ **Gary L. Hoos, M.D.,** 1900 S. National, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Hoos received his preliminary education at the University of Oklahoma and obtained his medical degree at the University of Oklahoma College of Medicine in 1981. He completed his residency at the University of Oklahoma Health Sciences Center, Oklahoma City, OK. He specializes in medical oncology and internal medicine.

■ **Raymond J. Hu, M.D.,** 3908 S. Grand, St. Louis 63118, has become a member of the St. Louis Metropolitan Medical Society. Dr. Hu received his preliminary education at St. Louis University and obtained his medical degree at the University of Missouri-Columbia School of Medicine in 1982. He completed his residency at the University of Missouri, Columbia, MO. He specializes in internal medicine.

■ **Paul D. Kountz, Jr., M.D.,** 510 S. Kingshighway Blvd., St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Kountz received his preliminary education at Wofford College and obtained his medical degree at Vanderbilt University in 1986. He is completing his residency at the Mallinckrodt Institute of Radiology, Washington University, St. Louis, MO. He specializes in diagnostic radiology.

■ **Thomas G. Lucas, M.D.,** 12700 Southern Road, St. Louis 63128, has become a member of the St. Louis Metropolitan Medical Society. Dr. Lucas received his preliminary education at the University of Missouri-St. Louis and obtained his medical degree at the St. Louis University School of Medicine in 1981. He completed his residency at St. Louis University Hospitals, St. Louis, MO. He specializes in psychiatry.

■ **Gerald U. Matile, M.D.,** 4400 Broadway, Suite 306, Kansas City 64111, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Matile received his preliminary education at Emporia State University and obtained his medical degree at the University of Kansas in 1982. He completed his residency at St. Luke's Hospital, Kansas City, MO. He specializes in obstetrics and gynecology.

- **David S. McKinsey, M.D.,** 2316 E. Meyer Blvd., Kansas City 64132, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. McKinsey received his preliminary education at Tulane University and obtained his medical degree at the University of Missouri-Columbia in 1981. He completed his residency at the University of Iowa Hospitals, Iowa City, IA. He specializes in infectious diseases.

- **Raymond F. Mohrman, M.D.,** 12255 DePaul Dr., St. Louis 63044, has become a member of the St. Louis Metropolitan Medical Society. Dr. Mohrman received his preliminary education at the University of Notre Dame and obtained his medical degree at the St. Louis University School of Medicine in 1977. He completed his residency at St. Louis University Hospital, St. Louis, MO. He specializes in internal medicine.

- **Milton Muller, M.D.,** 1132 Luttrell, Blue Springs 64015, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Muller received his preliminary education at the University of Kansas and obtained his medical degree at the University of Kansas in 1971. He completed his residency at Kansas City General Hospital and Medical Center, Kansas City, MO. He specializes in plastic surgery.

- **Anna D. Naumovich, M.D.,** Westport Drive, St. Louis 63146, has become a member of the St. Louis Metropolitan Medical Society. Dr. Naumovich received her preliminary education at Gymnazium Zeromski-Poland and obtained her medical degree at Wroclaw Medical School-Poland in 1976. She is completing her residency at St. Johns Mercy Medical Center, St. Louis, MO. She specializes in internal medicine.

- **Leo T. Neu III, M.D.,** 2900 S. Fremont, Springfield 65804, has become a member of the Greene County Medical Society. Dr. Neu received his preliminary education at Southern Methodist University and obtained his medical degree at the University of Missouri-Columbia School of Medicine in 1982. He completed his residency at Southwestern Medical School Affiliated Hospitals, University of Texas. He specializes in ophthalmology.

- **Richard G. Newhouse, D.O.,** 2900 Hospital Drive, North Kansas City 64116, has become a member of the Clay-Platte County Medical Society. Dr. Newhouse received his preliminary education at Loyola University and obtained his medical degree at the College of Osteopathic Medicine and Surgery in 1970. He completed his residency at Walter Reed Army Medicine Center, Washington, D.C. He specializes in psychiatry.

- **Christian E. Paletta, M.D.,** 1325 South Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Paletta received his preliminary education at Duke University and obtained his medical degree at the University of North Carolina in 1978. He completed

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his residency at Emory University Hospitals, Atlanta, GA. He specializes in plastic surgery.

■ **Lee S. Portnoff, M.D.,** 3009 N. Ballas Rd., Suite 226, St. Louis 63131, has become a member of the St. Louis Metropolitan Medical Society. Dr. Portnoff received his preliminary education at Purdue University and obtained his medical degree at Washington University School of Medicine in 1978. He completed his residency at Barnes Hospital, St. Louis, MO. He specializes in dermatology.

■ **William G. Roth, M.D.,** Barnes Hospital, St. Louis 63146, has become a member of the St. Louis Metropolitan Medical Society. Dr. Roth received his preliminary education at the University of Arizona and obtained his medical degree at the University of Chicago-Pritzker in 1981. He completed his residency at Barnes Hospital, St. Louis, MO. He specializes in pathology.

■ **Robert C. Scanlon II, D.O.,** 1630 N. Jefferson, Springfield 65803, has become a member of the Greene County Medical Society. Dr. Scanlon received his preliminary education at Southwest Missouri State University and obtained his medical degree at the University of Health Sciences in 1979. He completed his residency at Akron City Hospital, Akron, Ohio. He specializes in urology.

■ **Samuel E. Sprehe, M.D.,** 660 S. Euclid, St. Louis 63110, has become a member of the St. Louis Metropolitan Medical Society. Dr. Sprehe received his preliminary education at the University of Oklahoma and obtained his medical degree at the University of Oklahoma in 1983. He completed his residency at Washington University, St. Louis, MO. He specializes in otolaryngology and facial plastics.

■ **George F. Steinhardt, M.D.,** 1465 S. Grand Blvd., St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Steinhardt received his preliminary education at Denison University and obtained his medical degree at the University of Kansas School of Medicine in 1980. He completed his residency at the University of Kentucky School of Medicine, Lexington, KY. He specializes in urology.

■ **Willeford J. Stoecker, M.D.,** Shoss Radiology, Cape Girardeau 63701, has become a member of the Cape Girardeau County Area Medicine Society. Dr. Stoecker received his preliminary education at the University of Wyoming and obtained his medical degree at the University of Kansas in 1975. He completed his residency at the Brooke Army Medical Center. He specializes in diagnostic radiology.

■ **Robert C. Uchiyama, M.D.,** 224 S. Woods Mill Rd., St. Louis 63021, has become a member of the St. Louis Metropolitan Medical Society. Dr. Uchiyama received his preliminary education at Stanford University and obtained his medical degree at St. Louis University School of Medicine in 1980. He completed his residency at St. Louis University, St. Louis, MO. He specializes in internal medicine.

■ **Jeffrey M. VanBiber, M.D.,** 706 S. High, Butler 64730, has become a member of the West Central Missouri County Medical Society. Dr. VanBiber received his preliminary education at Graceland College and obtained his medical degree at the American University of Caribbean School of Medi-

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cine. He completed his residency at Floyd Medical Center, Rome, GA. He specializes in family practice.

- **Stephen A. Wexler, M.D.,** 211 North Meramec, St. Louis 63105, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wexler received his preliminary education at the University of Michigan and obtained his medical degree at the University of Michigan Medical School in 1982. He completed his residency at the University of Wisconsin Hospitals. He specializes in ophthalmology.

- **David A. Wilt, M.D.,** 6420 Prospect Ave., Kansas City 64132, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Wilt received his preliminary education at Pittsburg State University and obtained his medical degree at the University of Kansas School of Medicine in 1983. He completed his residency at the University of Kansas School of Medicine, Kansas City, KS. He specializes in internal medicine.

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CODEINE	X	X	X	X	X
OXYCODONE	XX	XX	XX	XX	XX

Blank space indicates that no such activity has been reported.

Table adapted from Facts and Comparisons (Nov.) 1984 and Catalano RB. The medical approach to management of pain caused by cancer. "Semin Oncol" 1975; 2; 379-92 and Reuler JB, et. al. The chronic pain syndrome: misconceptions and management. "Ann Intern Med" 1980; 93; 588-96.

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CONTRAINDICATIONS: Hypersensitivity to acetaminophen or hydrocodone.
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Drug Abuse and Dependence: VICODIN® is subject to the Federal Controlled Substances Act (Schedule III). Psychic dependence, physical dependence and tolerance may develop upon repeated administration of narcotics; therefore, VICODIN should be prescribed and administered with the same caution appropriate to the use of other oral-narcotic-containing medications.
Respiratory Depression: At high doses or in sensitive patients, hydrocodone may produce dose-related respiratory depression by acting directly on brain stem respiratory centers. Hydrocodone also affects centers that control respiratory rhythm, and may produce irregular and periodic breathing.
Head Injury and Increased Intracranial Pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a preexisting increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.
Acute Abdominal Conditions: The administration of narcotics may obscure the diagnosis or clinical course of patients with acute abdominal conditions.
PRECAUTIONS:
Special Risk Patients: VICODIN should be used with caution in elderly or debilitated patients and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture.
Information For Patients: VICODIN, like all narcotics, may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery; patients should be cautioned accordingly.
Cough Reflex: Hydrocodone suppresses the cough reflex; caution should be exercised when VICODIN is used postoperatively and in patients with pulmonary disease.
Drug Interactions: The CNS-depressant effects of VICODIN may be additive with that of other CNS depressants. When combined therapy is contemplated, the dose of one or both agents should be reduced. The use of MAO inhibitors or tricyclic antidepressants with hydrocodone preparations may increase the effect of either the antidepressant or hydrocodone. The concurrent use of anticholinergics with hydrocodone may produce paralytic ileus.
Usage in Pregnancy: Pregnancy Category C. Hydrocodone has been shown to be teratogenic in hamsters when given in doses 700 times the human dose. There are no adequate and well-controlled studies in pregnant women. VICODIN should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.
Nonteratogenic Effects: Babies born to mothers who have been taking opioids regularly prior to delivery will be physically dependent. The intensity of the syndrome does not always correlate with the duration of maternal opioid use or dose.
Labor and Delivery: Administration of VICODIN to the mother shortly before delivery may result in some degree of respiratory depression in the newborn, especially if higher doses are used.
Nursing Mothers: It is not known whether this drug is excreted in human milk; therefore, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.
Pediatric Use: Safety and effectiveness in children have not been established.
ADVERSE REACTIONS:
Central Nervous System: Sedation, drowsiness, mental clouding, lethargy, impairment of mental and physical performance, anxiety, fear, dysphoria, dizziness, psychic dependence, mood changes.
Gastrointestinal System: Nausea and vomiting may occur; they are more frequent in ambulatory than in recumbent patients. Prolonged administration of VICODIN may produce constipation.
Genitourinary System: Ureteral spasm, spasm of vesical sphincters and urinary retention have been reported.
Respiratory Depression: (See WARNINGS.)
DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. However, tolerance to hydrocodone can develop with continued use, and the incidence of untoward effects is dose related.
The usual dose is one tablet every six hours as needed for pain. (If necessary, this dose may be repeated at four-hour intervals.) In cases of more severe pain, two tablets every six hours (up to eight tablets in 24 hours) may be required.

Revised, April 1982. S68S

1. Hopkinson JH III: *Curr Ther Res* 24: 503-516, 1978
2. 8eaver, WT *Arch Intern Med,* 141:293-300, 1981.

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CONTRAINDICATIONS: 1) Severe left ventricular dysfunction (see WARNINGS), 2) Hypotension (less than 90 mmHg systolic pressure) or cardiogenic shock, 3) Sick sinus syndrome or 2nd or 3rd degree AV block (except in patients with a functioning artificial ventricular pacemaker).

WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

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Contraindications: Known hypersensitivity to the drug.

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms (including convulsions) reported after abrupt cessation of extended use of excessive doses are similar to those seen with barbiturates. Milder symptoms reported infrequently when continuous therapy is abruptly ended. Avoid abrupt discontinuation, gradually taper dosage.

> *Usage in Pregnancy:* **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Due to isolated reports of exacerbation, use with caution in patients with porphyria.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety disorders and symptoms, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

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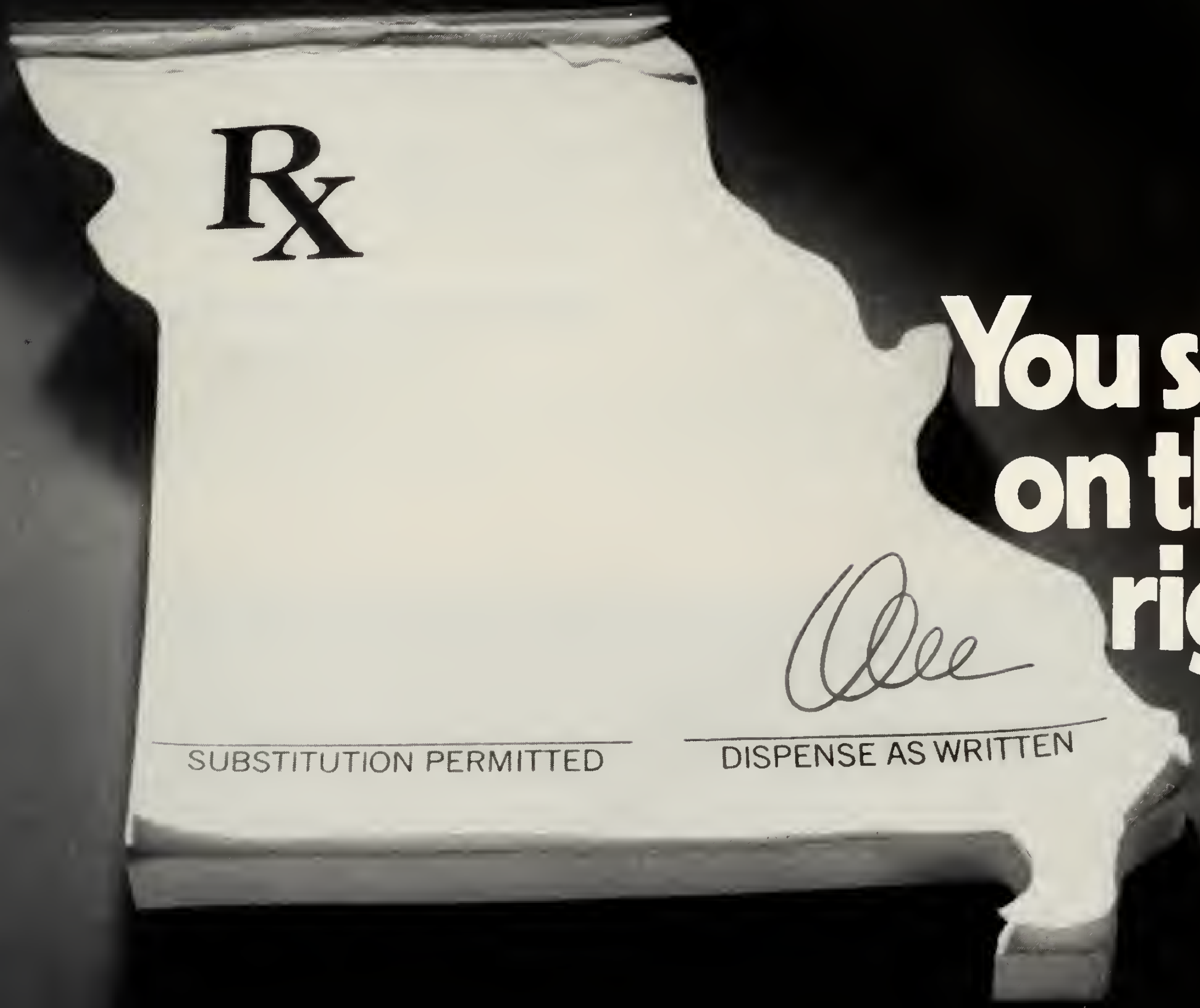
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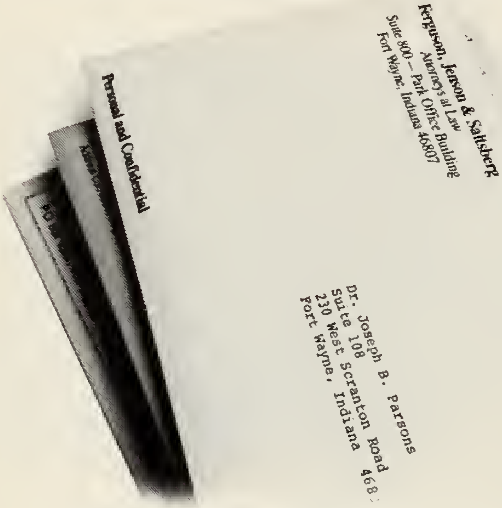
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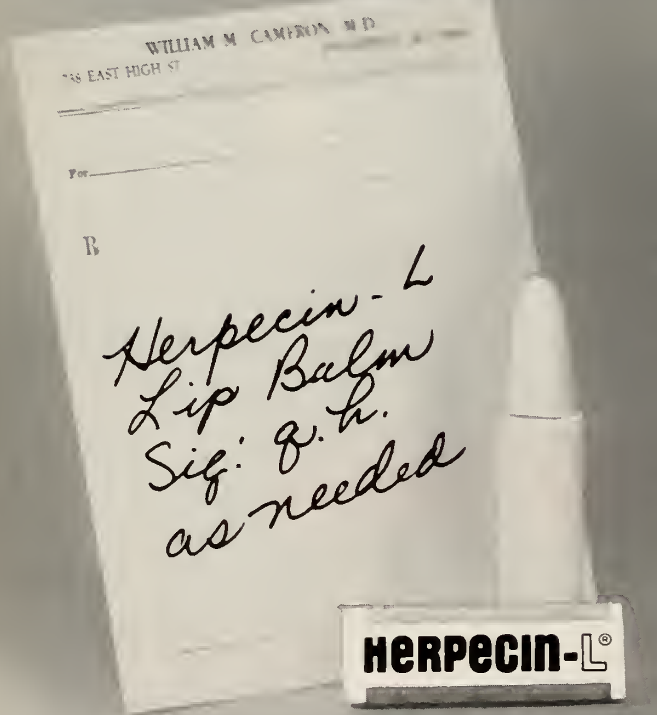
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Thirty-nine MSMA members qualified for the MSMA-AMA Physician's Recognition Award during February 1987.

The award, presented by the Missouri State Medical Association and the American Medical Association, is given to those physicians who voluntarily complete 150 credit hours of continuing medical education within a three-year period. Sixty of the credit hours must be earned in Category I programs.

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Eugene G. Wokanski, *St. Joseph*

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Charles F. Gholson, *Cape Girardeau*
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Jeffrey C. Kopelson, *Manchester*
Leonard N. Piccione, *Bridgeton*
Mauricio F. Pimentel, *St. Louis*

South Central

Laureano G. Mayuga, *Cabool*

In Memoriam

- **Lawrence W. Brumm, Sr., M.D.,** died March 10, 1987 at the age of 78. Dr. Brumm, a family physician, practiced medicine at Research Medical Center in Kansas City from 1938 until he retired in 1985. He obtained his medical degree at the University of Arkansas-Little Rock in 1937. Dr. Brumm was a member of the Metropolitan Medical Society of Greater Kansas City.

- **John P. Post, M.D.,** died March 30, 1987 at the age of 82. Dr. Post, a family physician, began practicing medicine in 1933 in Washington, Mo. He retired from active practice in 1982, but continued to make house calls to longtime patients until two weeks before his death. He obtained his medical degree at the St. Louis University School of Medicine in 1932. Dr. Post was a member of the Franklin-Gasconade-Warren County Medical Society.

- **Thomas E. Rusan, M.D.,** died March 25, 1987 at the age of 67. Dr. Rusan, an obstetrician/gynecologist, practiced medicine in St. Louis for 30 years before retiring in 1978. He obtained his medical degree at Meharry Medical College in 1945. In addition to serving on several hospital staffs, he served as deputy coroner of St. Louis County from 1964 to 1968. Dr. Rusan was a member of the St. Louis Metropolitan Medical Society.

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Medical School News

University of Missouri-Kansas City

- Seniors at UMKC School of Medicine recorded one of their best years ever in the 1987 national residency match with 95% of participants matched compared to a 94% national match rate. Internal medicine, family practice and surgery were the top three specialties chosen by UMKC's Class of '87.

- Variety is the key word in describing graduation activities in UMKC School of Medicine this month. On May 26, seniors will hold their traditional banquet, followed on the morning of May 28 with the first **Edward J. Twin, M.D. Memorial Society** meeting. **Richard Rhodes,** author of the bestseller *Making of the Atomic Bomb* will be guest speaker at that event. Later that day, the school is hosting its annual alumni reunion and scientific seminar. On commencement day, May 29, **Margaret Mahoney,** president of the Commonwealth Fund, will make a presentation as the annual **Carl Migliazzo Memorial Lecturer.** Commencement ceremonies will be held at 4 p.m. in the Music Hall, Kansas City Municipal Auditorium.

- **Dean Harry S. Jonas, M.D.,** recently entered his final lap of presidency with the American College of Obstetricians and Gynecologists (ACOG), when he assumed the role of immediate past-president of the 25,000-member organization at the group's 35th annual clinical meeting in Las Vegas April 25-30. In a triad leadership structure, the past-president continues to work with the current president and president-elect in fulfilling ACOG goals. At the meeting last month, he focused on cesarean section as the topic for the traditional president's program.

- **Raj Terkonda,** a fourth-year UMKC medical student won the grand prize for best abstract at the School's first Student-Faculty Research Day March 21. He also won one of four student prizes for best presentation for his topic, "Measurement of Protein C Levels in Sickle Cell Anemia." Other winners of best presentation prizes were **Yogi Hiremath, Cathy Spong,** and **Caren Eisenstein.** In addition to oral student presentations, a number of faculty members exhibited poster sessions. More than 150 people attended the event.

- **Betty Barker-Smith, M.D.,** clinical professor of psychiatry, and **O. Dale Smith, M.D.,** clinical professor of pathology, are jointly filling a newly-created part-time faculty position at UMKC School of Medicine. They recently became faculty coordinators for Year-1 students and special advisors to Year-1 and Year-2 students. They also will play key roles in planning Year-1 orientation, Year-1 retreat, and a special program series to assist students in their personal, academic, and professional development.

- **Bei-Zi Jiang, M.D.,** is at UMKC School of Medicine for one year on a World Health Organization fellowship. A chief of Clinical Pathology at Ren-Ji Hospital in Shanghai, she is working the section on Hematology at the medical school and Truman Medical Center.

- **Virginia Calkins,** assistant professor emeritus at UMKC School of Medicine, will present a paper, "Psychosocial Factors Associated with Career Choice of Male and Female Medical Students" at the annual meeting of the American Educational Research Foundation in Washington, D.C. She also is principal author of "Functions of a Women's Support Group in a School of Medicine," published in the March/April issue of the *Journal of the American Medical Women's Association.* The article is based on a cooperative project of the UMKC Women's Center and the School of Medicine.

- **Kenneth Mares, Ph.D.,** research assistant professor at UMKC School of Medicine, and **Virginia Calkins** recently co-authored an article describing the school's Summer Scholars program titled, "Preparing High School Students for a Career in the Health Sciences." It was published in the February issue of the *Journal of the National Medical Association.*

St. Louis University

- A national study in the *New England Journal of Medicine* reports that people who could give blood for themselves prior to surgery seldom do so. The study concludes that as much as 10% of the blood supply at 18 university hospitals could have been saved if eligible patients had pre-donated blood.

The University Hospital at St. Louis University Medical Center was one of the 18 hospitals included in the study, which appears in the Feb. 26 issue of the *New England Journal of Medicine.* **Marilyn Johnston, M.D., Ph.D.,** assistant professor of pathology at St. Louis University School of Medicine, was one of the investigators in the study. "We found that pre-donation was underused at all 18 hospitals studied," she said. "Receiving blood has certain potential dangers, and next to not needing any blood at all, receiving your own is the safest."

Beyond saving blood for emergencies or for those who cannot pre-donate, autologous blood donation has other benefits. Among the problems associated with receiving blood from other donors is the risk of hepatitis and other blood-borne infections, though AIDS is now routinely screened out of the blood supply. In addition, receiving blood from another person can cause a transfusion reaction with side effects like fever, chills, rash and destruction of red blood cells in the blood.

Dr. Johnston and her colleagues studied 4,996 patients undergoing elective surgery, primarily patients scheduled for orthopedic, cardiac and general surgery. Most surgery patients do not require blood, they pointed out, and only 1,287 of the patients in the study were candidates for possible transfusions. Of those, 590 were considered eligible to donate for themselves.

Only 5% of those eligible actually pre-donated. In five of the participating hospitals, no eligible patients pre-donated. Of 199 patients who could have pre-donated and who received blood during or following surgery, 68% could have avoided using other donors' blood entirely. The other 32% would probably have needed additional blood from the general supply even if they had pre-donated.

Dr. Johnston, who is also medical director of the Missouri-Illinois Regional Red Cross Blood Services, said, "If blood will be needed for surgery, and the surgery is not urgent, an eligible patient can give approximately one unit a week over a period of a month prior to surgery." The final donation should be at least 72 hours before surgery.

The authors of the study concluded that autologous donations can save vital blood for others and can lower the incidence of transfusion-associated infectious and immunologic diseases. Some blood centers may not yet be equipped to process autologous donations and may need time to develop safe and effective programs.

- A three-year, $99,122 grant has been awarded to **Farhang Payvar, Ph.D.**, assistant professor of biochemistry at St. Louis University School of Medicine, by the Edward Mallinckrodt Jr. Foundation. The grant will be used to study steroid hormone regulation of gene expression.

The research focuses on steroid hormones, which through their action at the genetic level, initiate and maintain many developmental and physiological functions. Exactly how these hormones are able to affect gene activity is being studied.

Dr. Payvar joined St. Louis University in 1984. He received his Ph.D. in pharmacology from Stanford University in 1978. Dr. Payvar was also a postdoctoral fellow and research scientist at the University of California in San Francisco.

- **Terry V. Zenser, Ph.D.**, professor of internal medicine and biochemistry at St. Louis University School of Medicine, has received a three-year, $357,262 grant from the National Cancer Institute. The funding will allow Dr. Zenser to continue examining the metabolism of carcinogens in bladder cancer.

As much as 90% of cancer is initiated by chemicals found in the environment. Dr. Zenser is studying specific classes of chemicals in an effort to determine how they activate and cause bladder cancer. Preventing the activation may halt the initiation of cancer.

The research is being conducted at the St. Louis Veterans Administration Medical Center where Dr. Zenser is coordinator of the Geriatric Research, Education and Clinical Center (GRECC). **Bernard B. Davis, M.D.**, director of GRECC and professor of medicine at St. Louis University School of Medicine, has participated in this research.

- **Daniel L. Tolbert, Ph.D.**, associate professor in the department of anatomy and neurobiology and assistant professor of surgery at St. Louis University School of Medicine, received a three-year, $209,081 grant from the National Institutes of Health to continue his studies on the development of the brain and its connections.

Working in the cerebral cortex, an area of the brain responsible for controlling voluntary movement, Dr. Tolbert discovered that during normal development of nerve pathways, excessive connections develop which disappear a few weeks after birth. He hopes to discover why these short-lived connections are formed, what role they play in normal brain development, and if, after an early brain injury, they persist to aid in recovery of function instead of being eliminated.

The University of Missouri-Columbia

- **William C. Allen, M.D.**, professor of family and community medicine, retired February 28th after 22 years of service to the University of Missouri-Columbia School of Medicine. During his tenure with the University, he has directed the department's preceptorship program which places medical students in one month practice experiences with private physicians mostly in rural Missouri.

- **James F. Carow, M.D.**, third year resident in family and community medicine, has recently been selected by the Committee on Research for the American Academy of Family Physicians to receive a $2,593 McNeil Award for Clinical Research by Family Practice Residents. The award is for his research entitled "Intraindividual Variation of Total Cholesterol, High Density Lipoprotein Cholesterol, Triglycerides and Cholesterol Ratios in Normal Male Adults."

- **Armando Favazza, M.D.**, professor and associate chairman of psychiatry, has been awarded the 31st George B. Kunkel Award for Advances in Medical Science from Harrisburg Hospital, a Hershey School of Medicine, Pennsylvania State University teaching hospital. Dr. Favazza is only the second psychiatrist to receive the award, the other being Dr. Seymour Kety, former Director of the National Institute of Mental Health and now director of the Cobb Research Laboratory, Harvard Medical School. A pioneer in the study of self-mutilative behavior, Dr. Favazza will have his latest book, *Bodies Under Siege*, published by the Johns Hopkins University Press in July of this year.

- **Margaret Flynn, Ph.D.**, professor emeritus of family and community medicine, has received a $52,446 grant from the Wallace Genetic Foundation to continue her work "Fatty Acids in Human Serum Triacylglycerol, Phosphatydlcholine and Cholesteryl Esters: A Quantitative Evaluation."

- **Ted Groshong, M.D.**, associate professor of child health, has now become Associate Dean for Medical Education Programs. In this newly-created position, Dr. Groshong is responsible for institutional policies and procedures governing graduate medical education as well as for curriculum issues related to the medical educational program. In this way, he will be helping to deal with the transition issues that dominate curriculum in the fourth year of medical school.

- **Bruce Harry, M.D.**, assistant professor of psychiatry and adjunct assistant professor of law, has become a Fellow of the American Academy of Forensic Scientists. At the Academy's February meeting in San Diego, Dr. Harry also presented a paper on "A Body Image Study of the Criminal Alias."

- **Richard Hessler, Ph.D.**, professor of family and community medicine and sociology, has been awarded a two-year grant of $112,198 from the National Institutes of Health for "A Study of the Independent Rural Elderly in Missouri." This on-going study involves elderly participants from 64 small Missouri towns. Health, social networks and life satisfaction are explored to help shed light on the aging process and on a person's ability to live independently.

- **Syed Arshad Husain, M.D.**, professor and chief of child psychiatry, and **Donna Haley, M.Ed.**, clinical instructor in psychiatry, conducted two workshops at the Sixth International Psychiatric Conference in Pakistan. The first workshop was on "The Diagnostic

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Please see next page for brief summary of prescribing information

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BRIEF SUMMARY *FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride INDERAL LA is available as 60 mg 80 mg 120 mg and 160 mg capsules

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites When access to beta-receptor sites is blocked by INDERAL the chronotropic inotropic and vasodilator responses to beta-adrenergic stimulation are decreased proportionately

INDERAL LA Capsules 60 80 120 and 160 mg release propranolol HCl at a controlled and predictable rate Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol resulting from the slower rate of absorption of propranolol Over a twenty-four (24) hour period blood levels are fairly constant for about twelve (12) hours then decline exponentially

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose When changing to INDERAL LA from conventional propranolol a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval In most clinical settings however such as hypertension or angina where there is little correlation between plasma levels and clinical effect INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate systolic pressure and rate pressure product INDERAL LA can provide effective beta blockade for a 24-hour period

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension it may be used alone or used in combination with other antihypertensive agents particularly a thiazide diuretic INDERAL LA is not indicated in the management of hypertensive emergencies

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis especially for treatment of exertional or other stress-induced angina palpitations and syncope INDERAL LA also improves exercise performance The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation Clinical improvement may be temporary

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock 2) sinus bradycardia and greater than first-degree block 3) bronchial asthma 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL

WARNINGS. CARDIAC FAILURE Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure and its inhibition by beta blockade may precipitate more severe failure Although beta blockers should be avoided in overt congestive heart failure if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle

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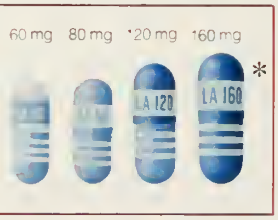

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE continued use of beta blockers can in some cases lead to cardiac failure Therefore at the first sign or symptom of heart failure the patient should be digitalized and or treated with diuretics, and the response observed closely or INDERAL should be discontinued (gradually if possible)

> IN PATIENTS WITH ANGINA PECTORIS there have been reports of exacerbation of angina and, in some cases myocardial infarction following *abrupt* discontinuance of INDERAL therapy Therefore when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema) PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

MAJOR SURGERY The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial It should be noted however that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures

INDERAL (propranolol HCl) like other beta blockers is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents eg dobutamine or isoproterenol However such patients may be subject to protracted severe hypotension Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers

DIABETES AND HYPOGLYCEMIA Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required Beta blockers may mask tachycardia occurring with hypoglycemia but other manifestations such as dizziness and sweating may not be significantly affected Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels

THYROTOXICOSIS Beta blockade may mask certain clinical signs of hyperthyroidism Therefore abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism including thyroid storm Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME several cases have been reported in which after propranolol the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

PRECAUTIONS. GENERAL Propranolol should be used with caution in patients with impaired hepatic or renal function INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure Patients should be told that INDERAL may interfere with the glaucoma screening test Withdrawal may lead to a return of increased intraocular pressure

CLINICAL LABORATORY TESTS Elevated blood urea levels in patients with severe heart disease elevated serum transaminase alkaline phosphatase lactate dehydrogenase

DRUG INTERACTIONS Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension marked bradycardia vertigo syncopal attacks or orthostatic hypotension

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug especially intravenous verapamil for both agents may depress myocardial contractility or atrioventricular conduction On rare occasions the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions especially in patients with severe cardiomyopathy congestive heart failure or recent myocardial infarction

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol

Ethanol slows the rate of absorption of propranolol

Phenytoin phenobarbitone and *rifampin* accelerate propranolol clearance

Chlorpromazine when used concomitantly with propranolol results in increased plasma levels of both drugs

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol

Cimetidine decreases the hepatic metabolism of propranolol delaying elimination and increasing blood levels

Theophylline clearance is reduced when used concomitantly with propranolol

CARCINOGENESIS MUTAGENESIS IMPAIRMENT OF FERTILITY Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential In 18-month studies in both rats and mice employing doses up to 150 mg kg day there was no evidence of significant drug-induced toxicity There were no drug-related tumorigenic effects at any of the dosage levels Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug

PREGNANCY Pregnancy Category C INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose

There are no adequate and well-controlled studies in pregnant women INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus

NURSING MOTHERS INDERAL is excreted in human milk Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman

PEDIATRIC USE Safety and effectiveness in children have not been established

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy

Cardiovascular Bradycardia congestive heart failure intensification of AV block hypotension paresthesia of hands thrombocytopenic purpura, arterial insufficiency usually of the Raynaud type

Central Nervous System Light-headedness, mental depression manifested by insomnia lassitude weakness, fatigue reversible mental depression progressing to catatonia visual disturbances, hallucinations vivid dreams an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics For immediate formulations fatigue lethargy and vivid dreams appear dose related

Gastrointestinal Nausea vomiting epigastric distress, abdominal cramping diarrhea, constipation mesenteric arterial thrombosis, ischemic colitis

Allergic Pharyngitis and agranulocytosis erythematous rash, fever combined with aching and sore throat laryngospasm and respiratory distress

Respiratory Bronchospasm

Hematologic Agranulocytosis nonthrombocytopenic purpura, thrombocytopenic purpura

Auto-Immune In extremely rare instances, systemic lupus erythematosus has been reported

Miscellaneous Alopecia LE-like reactions, psoriasiform rashes dry eyes, male impotence and Peyronie's disease have been reported rarely Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL INDERAL LA has different kinetics and produces lower blood levels Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval

HYPERTENSION — *Dosage must be individualized* The usual initial dosage is 80 mg INDERAL LA once daily whether used alone or added to a diuretic The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved The usual maintenance dosage is 120 to 160 mg once daily In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

ANGINA PECTORIS — *Dosage must be individualized* Starting with 80 mg INDERAL LA once daily dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained Although individual patients may respond at any dosage level the average optimal dosage appears to be 160 mg once daily In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established

If treatment is to be discontinued reduce dosage gradually over a period of a few weeks (see WARNINGS)

MIGRAINE — *Dosage must be individualized* The initial oral dose is 80 mg INDERAL LA once daily The usual effective dose range is 160-240 mg once daily The dosage may be increased gradually to achieve optimal migraine prophylaxis If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose INDERAL LA therapy should be discontinued It may be advisable to withdraw the drug gradually over a period of several weeks

HYPERTROPHIC SUBAORTIC STENOSIS — 80-160 mg INDERAL LA once daily

PEDIATRIC DOSAGE — At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

*The appearance of these capsules is a registered trademark of Ayerst Laboratories

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program Data on file, Ayerst Laboratories

2. Ravid M, Lang R, Jutrin I The relative antihypertensive potency of propranolol, oxprenolol, atenolol and metoprolol given once daily *Arch Intern Med* 1985 145 1321-1323

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Process of Child Psychiatry" and the second was on "Mental Retardation."

■ **Javad Kashani, M.D.,** professor of psychiatry, and **Gabrielle Carlson, M.D.,** former department of psychiatry faculty member, co-wrote "Major Depressive Disorder in a Preschooler" which was published in the March issue of the *American Journal of Psychiatry*. Dr. Kashani was also quoted in the *Washington Post* concerning his expertise with depression in preschoolers.

■ **Karl D. Nolph, M.D.,** professor and director of nephrology, directed the 7th National Continuous Ambulatory Peritoneal Dialysis (CAPD) Conference in Kansas City in February as General Program Chair Person. The conference brought more than 600 physicians and health care professionals from five continents including Asia and Australia together to improve cost-effective treatment for kidney dialysis patients. Already 15,000 kidney patients around the country are taking advantage of CAPD treatment pioneered by Dr. Karl Nolph.

■ **Beryl Ortwerth, Ph.D.,** professor in ophthalmology research, has been awarded a five-year $527,415 grant renewal from National Eye Institute for his research of "Lens Inhibitor Proteins and Cataractogenesis."

■ **Clark Watts, M.D.,** professor and director of neurosurgery, will be featured in a national ABC 20/20 report on treatments for ruptured discs. The 20/20 report, scheduled to air sometime in May, will try to put percutaneous nuclectomy, the latest technique for relieving back pain, in perspective by also looking at the previous popular method using chymopapain.

■ **James M. A. Weiss, M.D.,** professor and chairman of psychiatry, has been reappointed Liaison Officer to the Royal College of Psychiatrists of Great Britain by the American College of Psychiatrists, the corresponding professional and honorary society in the United States. Dr. Weiss, a Foundation Fellow of the British College and a Fellow of the American College, will meet with the President of the English College this fall to plan joint scientific meetings as well as collaborative research projects and academic interchange.

■ The Department of Medicine's office automation operations placed second in the Administrative Management's Annual Automated Office Awards competition. First place went to Texas Instruments with a 3,000 node network. **Mike Lynch,** senior systems analyst and **Harvey Summers,** computer programmer analyst, will travel to Washington DC in June to accept the award.

■ Progress Notes

Continued from page 222

Organization (substitute). Calls for support of current AMA program of data collection on the costs for the PRO system and inequities in the system.

Medical Staff Membership and Privileges of Psychologists (substitute). Strongly reaffirms position that the hospital medical staff cannot be forced to approve full voting membership for any allied health professions.

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THERE'S NO SUCH DISEASE AS MUSCULAR DYSTROPHY.

It's true. Because "muscular dystrophy" is the term for a *group* of twelve diseases—and no one disorder goes by that name.

Other facts about muscular dystrophy might surprise you, too. For one thing, the diseases aren't restricted to children. Anyone can be stricken, at any time.

For another thing, the Muscular Dystrophy Association battles not just the twelve muscular dystrophies, but twenty-eight other neuromuscular diseases, too.

At MDA, we're striving to put an end to all the devastating disorders you used to think of as muscular dystrophy.

And one day—we're determined—this chair will be empty for real.

MDA

Muscular Dystrophy Association, Jerry Lewis, National Chairman

Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

May

14-16 **Tenth Annual Missouri Cardiovascular Conference** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15-16 **Third Annual Symposium — Progress in Clinical Pediatrics** — Location: Children's Hospital, 3rd Floor Auditorium, St. Louis, MO. Contact: Physicians' Support Services, Children's Hospital, 400 S. Kingshighway Blvd., St. Louis, MO 63110. 314/454-6088.

20 **Chemotherapy for Locoregionally Advanced and Disseminated Bladder Cancer** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

21 **The Initial 6 Hours of Acute Myocardial Infarction** — Location: The Adams Mark Hotel, St. Louis. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

29-30 **Primary Pediatrics: Practical Issues in the Care of Children** — Location: Holiday Inn Executive Center, Columbia, MO. Contact: Weldon Webb, CME Office, University of Missouri-Columbia School of Medicine, MA 215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

June

4-5 **Patent Development and Biotechnology Transfer Programs for Academic Health** — Location: Stouffer Concourse Hotel, St. Louis, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

11-14 **The Family Physician, The People Specialist** — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Jean Larson, MAFP, 222 W. Gregory Blvd., Suite 211, Kansas City, MO 64114. 816/363-0322.

12-13 **Topics in Developmental and Behavioral Pediatrics** — Location: Marriott Pavilion Hotel, St. Louis. Contact: Mary Hummert, Education Coordinator, Room 202, Cardinal Glennon Children's Hospital, 1465 S. Grand Blvd., St. Louis, MO 63104. 314/577-5638.

12-14 **Annual Meeting Missouri Chapter of American College of Surgeons** — Location: Lodge of the Four Seasons, Lake of the Ozarks. Contact: Linda Wheelen, Executive Secretary, American College of Surgeons, Missouri Chapter, P.O. Box 4562, Springfield, MO 65808.

17 **Neuroendocrine Tumors: Pathologic and Clinical Characteristics** — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

22-26 **The Physician in Management** — Location: The Antlers Hotel, Colorado Springs, CO. Contact: Sherry Mason, American Academy of Medical Directors, 4830 W. Kennedy Blvd., Suite 648, Tampa, FL 33609. 813/873-2000.

July

18 **Interoperative Radiation: A New Combined Treatment Approach to Cancer** — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

August

1-8 **Rhinology, Rhinologic Surgery and Rhinomanometry** — Location UMKC School of Dentistry, Kansas City. Contact: Pat A. Barelli, M.D., course director, 2929 Baltimore, Suite 105, Kansas City, MO 64108. 816/561-4423.

6 **Review of Orthopedic Infections** — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

September

2-3 Advanced Cardiac Life Support Provider Course — Location: Francisco Lounge, Student Center, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913 588-4488.

25 Nutrition Concerns for Women: A Symposium for Health Professionals — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913 588-4488.

29-30 Cancer and Aging — Location: Clarion Hotel, St. Louis. Contact: Cheryl Mason, Symposium Secretary, VA Medical Center, GRECC (111G-JB), St. Louis, MO 63125. 314 894-4659.

October

3-4 Infectious Disease Update 1987 — Location: Tan-Tar-A, Osage Beach, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

9-10 Allergy, Immunology and Rheumatology: Review and Update — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913 588-4488.

9-10 30th Annual Physician Alumni Weekend — Location: UMC School of Medicine, MA217 CME Auditorium, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA 215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

15-25 Allergy Abroad — Locations: Stockholm, Copenhagen, London. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314 362-6893.

17 Rheumatology Former Fellows Conference — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

20-21 Medicine and Religion: Issues in the Eighties — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913 588-4488.

22-23 Chronic Obstructive Pulmonary Disease Update — Location: Holiday Inn Executive Center, Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

November

7 Rheumatology Update — Location: Columbia, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

December

7-8 33rd Annual Urology Seminar — Location: Hyatt Regency Hotel, Kansas City, MO. Contact: Weldon Webb, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314 882-4105.

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Precautions: *General*—Patients should be followed carefully so that any side effects or unusual manifestations of drug idiosyncrasy may be detected If an allergic reaction to Keflet occurs, the drug should be discontinued and the patient treated with the usual agents (eg, epinephrine or other pressor amines, antihistamines, or corticosteroids).

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References: 1. Feighner JP, *et al.* *Psychopharmacology 61*:217-225, Mar 22, 1979 **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide)
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment Amitriptyline component may block action of guanethidine or similar antihypertensives When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady state concentrations of the tricyclic drugs. Concomitant use of Limbitrol with other psychotropic drugs has not been evaluated, sedative effects may be additive Discontinue several days before surgery Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy Limbitrol should not be taken during the nursing period. Not recommended in children under 12 In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs
Cardiovascular Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke
Psychiatric. Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract
Allergic. Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia
Gastrointestinal Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
Other Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling
Overdosage: Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning See complete product information for manifestation and treatment
Dosage: Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h.s.* dose may suffice for some patients Lower dosages are recommended for the elderly Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses
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Missouri Medicine

Journal of the Missouri State Medical Association

June 1987

[redacted]

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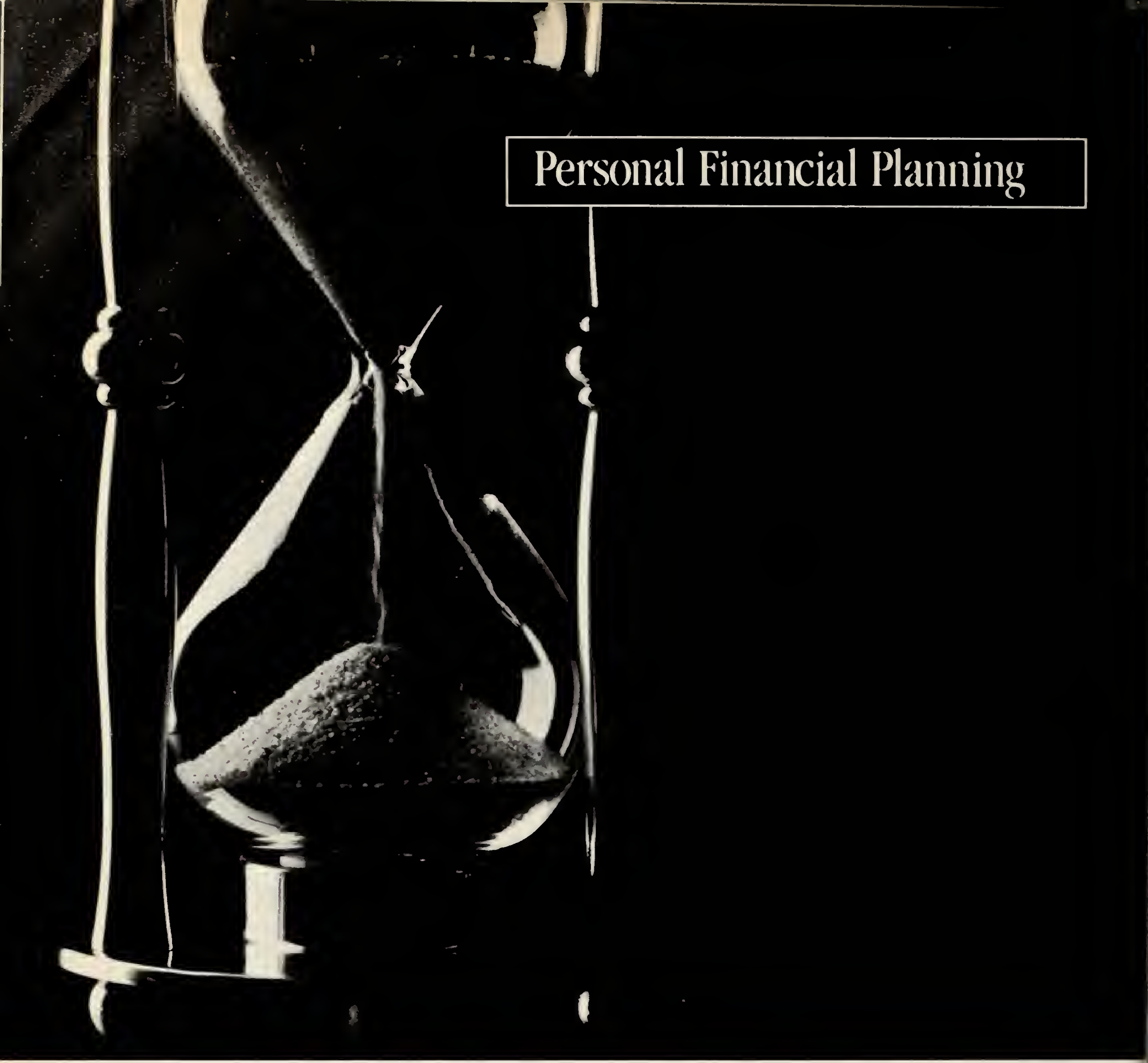

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MSMA Progress Notes

Dr. Akhter resigns from PRO

Mohammad N. Akhter, M.D., M.P.H.

Mohammad N. Akhter, M.D., M.P.H., President and Medical Director of the Missouri Patient Care Review Foundation, the state's Peer Review Organization (PRO), will be resigning his position effective in July to return to his native Pakistan. Dr. Akhter's departure marks the end of an outstanding 17-year tenure in the United States, the last seven of which have been spent in Missouri.

Dr. Akhter's achievements in medicine and health care are in many ways the embodiment of the "American success story." Born into simple, rural surroundings with few material benefits, his pursuit of excellence and a sense of higher purpose propelled him toward goals and accomplishments that few individuals born in this country and with far greater resources could hope to approach. And, at the same time, the impact of those early beginnings can be seen in his work: for example, his concern for this country's senior citizens, particularly those in the rural areas.

A frequently-sought speaker, Dr. Akhter often says "English is not my native tongue." Yet, few people who have heard him speak fail to be touched by his honesty, forthrightness, professionalism and humanity. The term "charismatic" has been applied to describe him so many times as to become cliche.

Dr. Akhter came to Missouri in 1980 to assume the position of Director of the Missouri Division of Health. He also served as Deputy Director of Medical Affairs with the Missouri Department of Mental Health before becoming the first and only chief executive officer for the PRO in 1984. This public position tested his ability to successfully juggle the competing demands of physicians, hospitals, the federal government and the public. He remained steadfast in his conviction that fairness, consideration and professionalism are paramount and that bureaucratic mandates should never be blindly imposed on others.

Under Dr. Akhter's leadership, the Missouri PRO can boast these major accomplishments:

- An increase in the quality of care to Medicare beneficiaries. This is not to suggest that medical care was substandard prior to the PRO; rather, the one in 10 physicians whose practice was not fully characterized by state-of-the-art practice has been identified and, in most cases, has availed himself of opportunities for improvement.
- Cost containment efforts have been successful. There are fewer medically unnecessary admissions to Missouri hospitals than three years ago, with most of the reduction accomplished through education rather than through the more punitive denial process.
- Review has been consolidated on a statewide basis to assure much greater fairness and consistency than was true in the past.
- The Missouri PRO is one of the few PROs in the country sponsored by organized medicine. It has successfully helped build a more harmonious working alliance between allopathic and osteopathic medicine in the state. Moreover, the Foundation, unlike most of its PRO counterparts in this country, has been able to maintain an excellent relationship with the Missouri State Medical Association, Missouri Association of Osteopathic Physicians and Surgeons, and the Missouri Hospital Association despite serving in a regulator role in relation to the constituents of these organizations.
- The Foundation has provided leadership on health care issues and has spoken out when it felt federal health care policies were at variance with the needs of Medicare patients. And it did so in the face of tremendous pressure to remain silent and to be more punitive in its dealings with physicians and hospitals. The proposed Medicare second opinion program and the recent revision affecting the HCFA generic quality screens are examples of the positive results of the Foundation's principles approach to health care.

Many of his other accomplishments could be noted, although space does not allow this.

Dr. Akhter's unique blend of clinical and administrative skills combined with a keen sense of professionalism and pragmatism represents a significant loss to the health care community in Missouri and indeed, the country. ■

Dan Jaco, M.S.P.H.
Deputy Director of Operations
Missouri PRO

MSMA presents awards to top medical students

For more than 20 years, MSMA has awarded $100 to the top graduates of Missouri's medical schools. Three students from each of the four state medical schools are honored each year. The recipients are selected because of their academic excellence throughout their medical education.

On May 15, St. Louis University presented the MSMA Honors Graduate Awards to:

Elizabeth Engel
Greenwood Lake, NY
Thomas N. Fleming
St. Charles, MO
John B. Wood, III
San Diego, CA

The University of Missouri-Columbia presented their MSMA awards on May 16 to:

Jimmy D. Bowen
Cape Girardeau, MO
Don Curtis Coonce
Kansas City, MO
Kendall Aki Itoku
St. Louis, MO

At their graduation ceremonies on May 29, the University of Missouri-Kansas City recognized these MSMA Honors Graduates:

Maria A. De Castro
St. Louis, MO
Eric R. Schwartzkopf
St. Louis, MO
R. Dent Underwood
Salem, MO

Honored at the Senior Awards Program at Washington University were:

Anthony C. Griffin
Kenosha, WI
Timothy J. Pluard
Evergreen Park, IL
Laura A. Rokusek
Rockford, IL

Congratulations to all of those honored this year! ■

Peak Medicare assignment

Physicians and other Medicare Part B providers accepted assignment at a peak rate exceeding 72% in March 1987, unofficial HCFA findings have revealed.

The previous record of 70.9% was established in February 1987. That marked the first time that Part B providers accepted assignment at a rate exceeding 70%. Last year the rate of assignment under Medicare hovered between 67-69%.

The rate at which physicians and other Part B providers have accepted assignment has increased dramatically since 1980 when only 51.4% of claims were assigned.

AMA attributes the high levels at which assignment is now being accepted to increasing professional sensitivity to adverse economic circumstances of their patients, in combination with AMA and individual medical society appeals for physicians to accept assignment wherever personal or family situations warrant it.

In 1984 the AMA and the Federation called on all physicians engaged in patient care to accept Medicare assignment wherever appropriate and to reduce or waive fees for all patients wherever warranted by economic circumstances. ■

NSAID authorization program revision

Effective June 1, 1987, the Department of Social Services has amended and simplified the drug exception process by which non-steroidal anti-inflammatory drugs (NSAID's) may be accessed for eligible Medicaid recipients who have a diagnosis of arthritis. An outline of the significant highlights of this program is as follows:

- NSAID's are covered only for Medicaid recipients with a diagnosis of arthritis.
- Before any NSAID is authorized by the physician, he/she must determine that the recipient has tried aspirin therapy. If aspirin therapy was tried and was found to be ineffective, then either ibuprofen or indomethacin must be tried. Only after these methods of treatment have been tried and found to be ineffective, may a brand name NSAID be authorized.
- Once a Medicaid recipient is authorized to receive an NSAID, *this authorization is effective for the recipient's lifetime as long as he/she is eligible for Medicaid. The requirement of 6 month reauthorizations has been deleted.* It will not be necessary for recipients approved under the Non-Steroidal Anti-Inflammatory Drugs Program to reapply for coverage if their Medicaid eligibility is terminated and later reinstated under the same departmental client number (DCN).
- All recipients who are currently authorized to receive these medications through the Anti-Arthritic Prior Authorization Process will automatically receive authorization under the new program. The "M" indicator will begin appearing on these recipients' June 1987 Medicaid cards.
- The recipient will have immediate access to these drugs as no *prior* authorization from the State must be obtained.

The process will operate as follows:

- The physician must complete and sign a "Non-Steroidal Anti-Inflammatory Drug (NSAID) Request" form for patients with arthritis attesting to the fact that aspirin and either ibuprofen or indomethacin have been tried. *The "arthritic condition" must be specified.* The diagnosis of "arthritis" is not acceptable.
- Two copies of the four (4) part form must be *promptly* submitted by the physician to the Division of Medical Services.

Upon receipt of a properly completed form, the Medicaid Program will place an indicator on the recipient's Medicaid card. An "M" will appear in the field on the card designated "Prog. Rest." (Program Restrictions).

- One copy of the form is to be given to the patient. The patient may then take the completed form and the prescription to the pharmacy and have immediate access to the drug prescribed.
- The physician must retain one copy for the medical record.
- The pharmacist must retain the form which the recipient presents to facilitate payment in the event that the form is not received by the state agency.

For more information, contact: Helen Clarkston at 314/751-3277. ■

New guidelines for medical tests

New guidelines calling for the appropriate use of the 15 most common categories of diagnostic tests were announced April 2, 1987. The guidelines were drawn up by the Blue Cross and Blue Shield Association (BCBSA), and could affect at least 75 million members. The tests include chest X-rays, electrocardiograms, blood cultures and complete blood counts, arterial blood gas analysis and tests for syphilis.

The guidelines are not reimbursement guidelines, but are intended to educate doctors about appropriate standards and to promote cost-effective care. BCBSA is attempting to encourage physicians to exercise more selectivity in their ordering of tests.

The guidelines could save money because estimates show that 20-60 percent of testing is unnecessary. The cost influence is expected to come from fewer tests being performed, not from claims denials.

According to Richard P. Krecker, president and chief executive officer of BCBS of Kansas City, the decision whether to adopt the guidelines and stop reimbursements for the routine tests could take up to two years. ■

Death certificate reminder

The Missouri Department of Health is asking the medical community to assist in assuring the prompt filing of death certificates. As a reminder, the duties of the physician are to:

1. Complete and sign the cause of death and medical certification section of the death certificate.
2. Return the signed death certificate within 72 hours to the funeral director at once so the funeral director can file it with the local registrar within the prescribed time.
3. Know the state and local regulations regarding responsibility for medical certification when death is due to external causes or occurs without medical attendance.
   a. When death is — or is suspected to be — the result of an accident, homicide or suicide, the law requires that the coroner or medical examiner for the county in which the death occurred investigate the case and certify the cause of death.
   b. Similarly, if death occurs from natural causes and the deceased had not been under care of a physician, the local registrar may refer the case to the medical examiner or coroner for investigation and certification.
4. Cooperate with the local or state registrar by replying promptly to questions concerning any entries on the medical certification. ■

What is your Medical PQ (Political Quotient)?

How politically aware are you? Take the test below and find out your political quotient.

1) Have you recently complained about the effect government/elected representatives have on the medical profession? yes no

2) Other than PAC dues, have you financially contributed to any political candidate/cause in the past year? yes no

3) Have you, your spouse or other member of your immediate family contributed something other than money, such as time, use of home/office, advisory opinion, to a political candidate/cause in the past year? yes no

4) Are you a registered voter? yes no

5) Did you cast a ballot in the recent 1986 November elections? yes no

6) Have you ever written/contacted by phone an elected official to voice an opinion about a medically-related issue? yes no

7) Have you ever visited personally with an elected official to voice an opinion about a medically-related issue? yes no

8) Can you (quickly) name:
    your state representative?
    your state senator?
    your Congressman?
    your two Senators?

9) Do you wish to change or have an impact upon the people making political decisions shaping the practice of medicine? yes no

10) Can one person truly make a difference in the political process? yes no

Score: three points for every "yes" (question 8: 1 point for each correct response) zero points for every "no" (if answered "no" on questions 4 or 5, deduct one point)

Total: 31-24 very high medical PQ; good for you; 23-18 on the right track; we need more; 17-10 the potential is there; under 10 you have failed; it is imperative to raise your PQ. ■

Missouri Register

The following items were published in the April 1, *Missouri Register:*

Pharmacy

The State Board of Pharmacy published a final rule to 4 CSR 220-3.011, Negative Generic Drug Formulary. The rule revises the negative generic drug to reflect new generic drug products approved by the Food and Drug Administration. The amendment went into effect April 11, 1987.

Newborn Blood Tests

The Department of Health published a proposed amendment to 19 CSR 20-36.010, Testing for Phenylketonuria (PKU), Primary Hypothyroidism and Galactosemia. The proposed amendments would allow hospitals the option of either 1) collecting a blood specimen on newborn infants discharged before being on a protein or milk feeding for 24 hours and having the infant return for a second blood test within three to five days, or 2) arranging with the family to return the infant for one blood sample within three to five days.

Under the first option, the Department of Health would send a certified letter to the parents within five days of receipt of the blood sample instructing the parents to make arrangements for the collection of a second sample as soon as possible. The proposed amendment has a 30-day comment period.

Medicaid Recovery of Overpayments

The Division of Medical Services published a final rule amending the procedures for recovery of overpayment to providers. This rule, effective April 11, 1987, requires providers to return to the State the FEDERAL SHARE of any outstanding amounts within 45 days of the date the provider receives notice.

The following items were published in the April 16, 1987, *Missouri Register:*

Medical malpractice limits increase

The medical malpractice tort reform bill (Senate Bill 663) passed in 1986 provides that the cap on non-economic damages be increased to keep pace with inflation, according to a specific index described in the bill. The starting point for the cap on non-economic damages is $350,000 per defendant. The Missouri Division of Insurance is responsible for making an annual calculation of the increased limit.

According to the Division of Insurance, after applying the appropriate index, the cap for non-economic damages in a medical malpractice case for 1987 is $356,000, a NET INCREASE of $6,000.

Medicaid drugs

The Division of Medical Services (DMS) published a final rule amending 13 CSR 40-81.010, List of Drugs Covered by Medicaid. This rule, effective May 1, 1987, adds the following five items to the Missouri Medicaid formulary: Famotidine, Guanfacine HCl, Permethrin Creme Rinse, Verapamil HCl Sustained Release Tablets and Prednisolone Acetate Ophthalmic.

Medicaid drug exemptions

DMS published a final rule amending 13 CSR 40-81.012, Five Prescription Limit Per Month Per Recipient. This rule, effective May 1, 1987, adds Guanfacine HCl and Verapamil HCl Sustained Release Tablets to the list of drugs and supplies exempt from the five prescription per month limitation.

Medicaid long-term care

DMS published a final rule amending 13 CSR 40-81.081 and 13 CSR 40-81.083, Prospective Reimbursement Plan for Long-Term Care and Intermediate Care/Mentally Retarded. This rule, effective April 26, 1987, changes the allowed temporary leave of absence days from two days per quarter to four days for any period of six consecutive months. The rule also clarifies that a semiprivate room is covered within a facility's Medicaid per diem rate. Recipients in a facility who desire a private room will be allowed to pay the difference between the private and semiprivate room rate. ■

Membership survey to guide strategic planning

This summer, MSMA leaders will begin developing a strategic plan for the Association. Specifically, they will assess:

- what MSMA's priorities must be over the next three to five years;
- what factors will foster or impede the Association's ability to achieve these priorities; and
- what types of services and programs should be in place to best satisfy member needs.

The Council felt strongly that the leadership hear from MSMA members before establishing any new initiatives for the Association. Therefore, during June and July MSMA will be conducting a mail survey of its active members. The survey will ask about the critical issues facing medicine, the effectiveness of organized medicine, MSMA's current services and activities, and potential new Association programs.

"I want to encourage all my colleagues who receive a questionnaire to take the few minutes necessary to give us their opinions," urges Larry G. Piepergerdes, M.D., MSMA President. "This is one survey where the answers will make a real difference." ■

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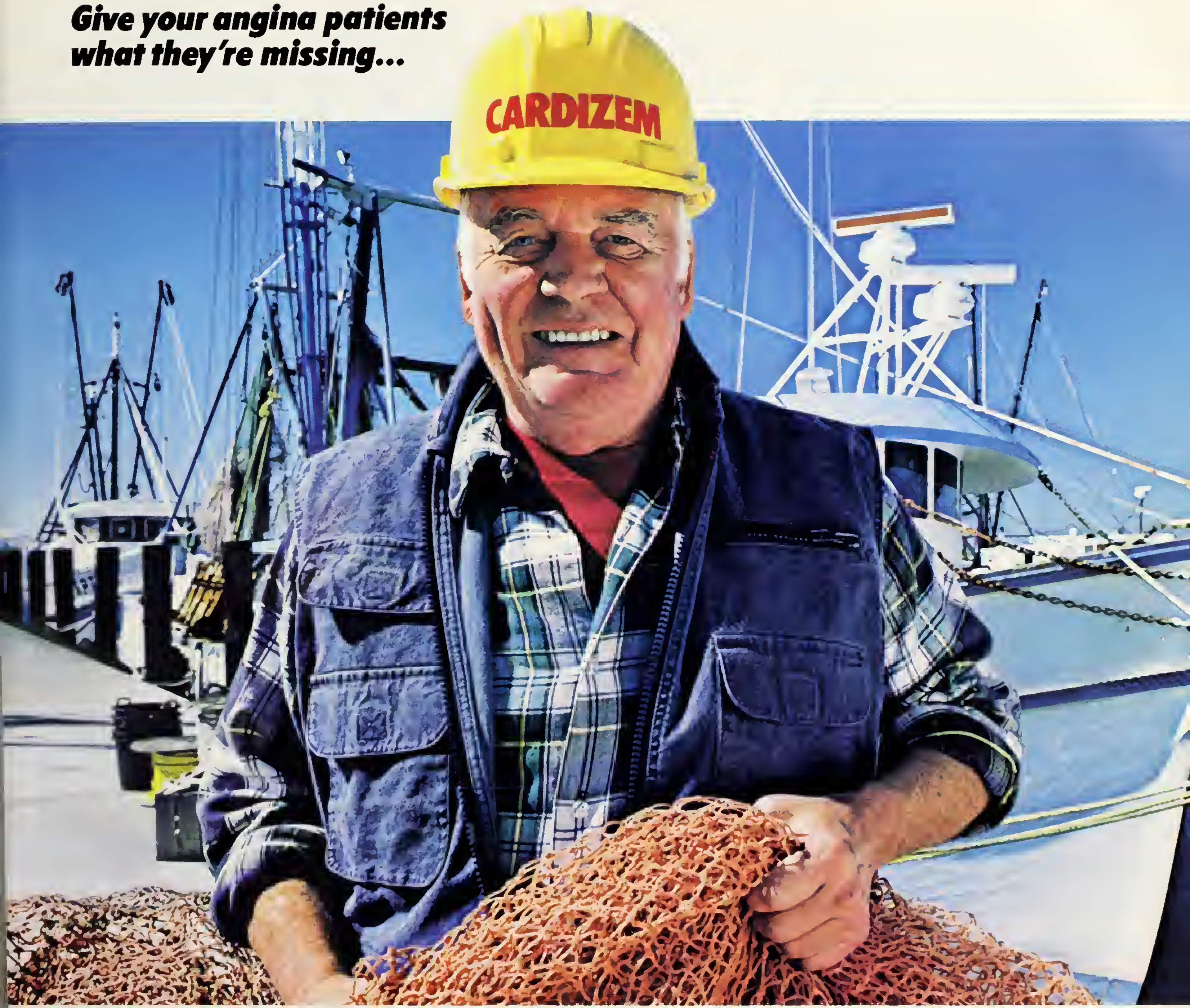

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***See Warnings and Precautions.**

Please see brief summary of prescribing information on the next page.

CARDIZEM® diltiazem HCl/Marion FEW SIDE EFFECTS IN ANTIANGINAL THERAPY

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Brief Summary
Professional Use Information

CARDIZEM®
(diltiazem HCl) 30 mg and 60 mg Tablets

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*

   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. Issued 7/86

See complete Professional Use Information before prescribing.

References: 1. *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers. Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347.* **2.** *Shapiro W: Calcium channel blockers. Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* **3.** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris. A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* **4.** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* **5.** *Schroeder JS: Calcium and beta blockers in ischemic heart disease. When to use which. Mod Med 1982;50(Sept):94-116.*

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Letters to the Editor

Special thanks to MSMA

Dear Dr. Burkey:

I would like to thank MSMA for the opportunity I recently had to attend the 129th Annual Convention of the Missouri State Medical Association. Participating on the Reference Committee on Resolutions was truly an educational experience and one that I will not soon forget. It's great that the MSMA provides an opportunity for the students of today to see the goals and challenges that lie ahead for them as the doctors of tomorrow. Once again, thank you.

Sincerely,
Kent Cooper
M2-UMC
Columbia, MO

Let's review the reviewers

Dear Dr. Banton:

I have written and discussed with the St. Louis Council the demanding need for a program of alternative and *adversarial* review organizations to be established by practicing members of the medical community utilizing standards and attitudes prevailing in our community. Not much has been done and, as usual, our leadership has dropped the ball and been totally inadequate to the task.

The situation seems to be getting worse. I call your attention to the dramatic front page display in the *New York Times* regarding Andy Warhol and the Cornell Hospital. You and I both know the medical practice at the Cornell Hospital is quite good and represents generally that available in the United States today. Certainly the outrageous attacks made by the "Review Organization" upon this hospital are unjustified and represent some form of harassment designed for social/political purpose. The review organization utilized extensive media coverage to enhance their own importance far beyond the worthlessness of their existence.

In the rural communities, unfair attacks are made against physicians dealing with problems peculiar to their practice. You are aware of the destruction of rural hospital facilities. It is mandatory that organized medicine and you, as our representatives, establish a program of alternative-adversarial review to these miserable organizations whose sole interest is one of cost control. Now it seems personal aggrandizement of those individuals involved in these organizations is their motivation.

I hope that you will exercise some leadership in both the Missouri State Medical Association and the Metropolitan Medical Association in these areas. Responsive, effective leadership has long been a failure in both organizations.

Very truly yours,
Robert E. Kuhlman, M.D.
St. Louis, MO

Editor's note: This letter was sent to William C. Banton II, M.D., the 1987 president of the St. Louis Metropolitan Medical Society (SLMMS). Dr. Kuhlman is an orthopedic surgeon and a member of MSMA and SLMMS.

WANTED:

- **Opinions**
- **Comments**
- **Suggestions**
- **Ideas**

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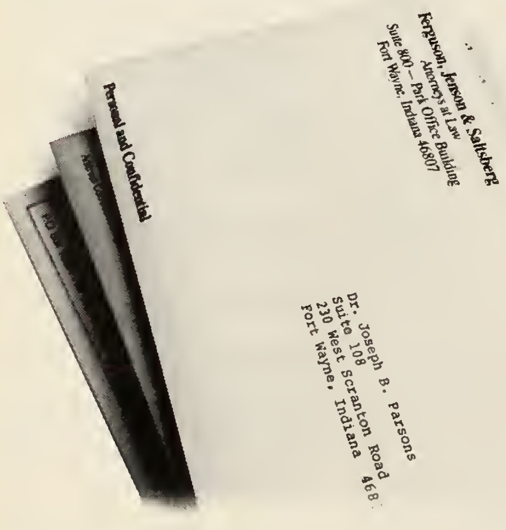
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EDITOR'S DESK

by Jordan W. Burkey, M.D.

Mental vacations for the medical mind

Too many years spent in school resulted in an annual psychological problem for many of us — if it's summertime it ought to be vacation time. It's time to sit under a big shade tree with a drink in hand (a low-sodium, caffeine-free, sugar-free soft drink, of course) and let our supposedly medically-structured minds wander through more mundane areas. City physicians wonder about taking their families down to the lakes; country docs consider a trip to St. Louis or Kansas City for the outdoor theatre or a baseball game.

While we engage in such mental dawdling, however, some of the medical happenings of the past year keep returning to our minds. The new, ever higher malpractice premiums we now pay are hard to forget. Wasn't it *AMA News* which said hospitals and physicians paid $4.7 billion in premiums in 1985?

"Doctors can't even daydream without mulling over medical matters."

Think about the hospitals a few moments and one recalls all the performance protocols now thrust upon us. Who a generation ago would have anticipated that there would now be an American Board of Utilization Review and Quality Assurance? It's time for another cool drink.

We could turn our leisure-time thoughts to what's been going on in basic medicine. We recall wading through a research article in the "Archives" last winter — barely understanding it — until reading how the investigator took his specimen out of a 4.5% ethylenediaminetetraacetate solution and after several interspersed chemical gyrations covered it with "Medium 199." This led to a few moments of worry about the fate of the first 198 media, followed in turn by changing our reading over to *Sports Illustrated.*

Perhaps a June day is better spent letting the mind drift toward the future. A recent story told of the new automated phone call system now available for patients to remind them when to take their medicines and when to return for their doctor appointments. A slightly nostalgic article not long ago indicated that house calls are coming back into vogue. Less in tune with the past, however, are the reported charges of up to $100 per call.

All of this heavy thinking leads to a bit of hunger; unfortunately this in turn brings to mind stories of the new "medical foods" coming on the market — take your medicine as you eat your meal!

That's enough brain work for one day; doctors can't even daydream without mulling over medical matters. Now the drink's about gone and the phone's ringing. No doubt it's one of those automated calls coming through with a reminder that it's time to mow the lawn. ■

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PRESIDENT'S PAGE

by Larry G. Piepergerdes, M.D.

Initiated in 1982, the Health Policy Agenda outlines a national health policy for this century and the beginning of the 21st century.

America's Health Policy Agenda

Planning a health policy for the American people for the end of this century and the beginning of the next century has been a prime project of the American Medical Association (AMA) over the past five years. To this end, the Health Policy Agenda was initiated in 1982.

More than 425 representatives from 1,972 health-related business, government and consumer groups have met during this five-year period to develop the Agenda. From its inception, the Agenda has functioned under one major premise — that a consensus approach among knowledgeable people would yield reasonable and workable results.

Three major groups were involved in the development of the Agenda: a Steering Committee, an Advisory Committee, and six Work Groups.

The 37-member Steering Committee represented dentists, hospital administrators, insurance providers, nurses, physicians, the pharmaceutical industry and State and Federal government. There were also five at-large members of the Committee. The primary work of the HPA was done by six Work Groups, each consisting of 30 representatives from health-related business, government and consumer organizations.

The Agenda was developed in two phases. During the first phase of the project, which concluded in mid-1984, 159 principles were developed. These principles are value statements that describe what should exist in health care. In the second phase of the project, the Phase I principles were used by the Work Groups to develop policy proposals. The complete policy proposals, including background information, are in the Reference Report of the Health Policy Agenda.

The six policy areas addressed in the Health Policy Agenda are:

- The ultimate goal of the health care system is to serve the public interest individually and collectively.
- Both public and private sectors should participate in defining health care needs and in delivering and financing health care services.
- For the health care system to function effectively, there must be clear communication among all participants.
- When possible, health care decisions should be made at the local level.
- The success of the health care system depends on a clear delineation and understanding of the roles and responsibilities of the key participants, including consumers.
- Because of the costs of educating health care professionals, incorporating new technology, and administrating sophisticated facilities, pressures to contain overall health care expenditures will always exist.

This is a tremendous resource publication. It is available in libraries, in the Medical Societies and from the AMA. I think medicine should be congratulated for performing such a yeoman's task in developing health care policy. It is a task that no one else, including the Federal government, has accomplished. ■

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An Invitation . . .

The Editorial Board of *Missouri Medicine* invites the members of the Missouri State Medical Association to submit examples of their art work for publication on the cover of *Missouri Medicine*. Color photographs, preferably transparencies, as well as photographs of paintings, drawings, sculpture, ceramics, jewelry, etc. are all welcome. There is no limit as to subject, although pictures of Missouri or subjects topical to a month or season may have a slight advantage. Please submit entries to "Cover," *Missouri Medicine*, P.O. Box 1028, Jefferson City, MO 65102.

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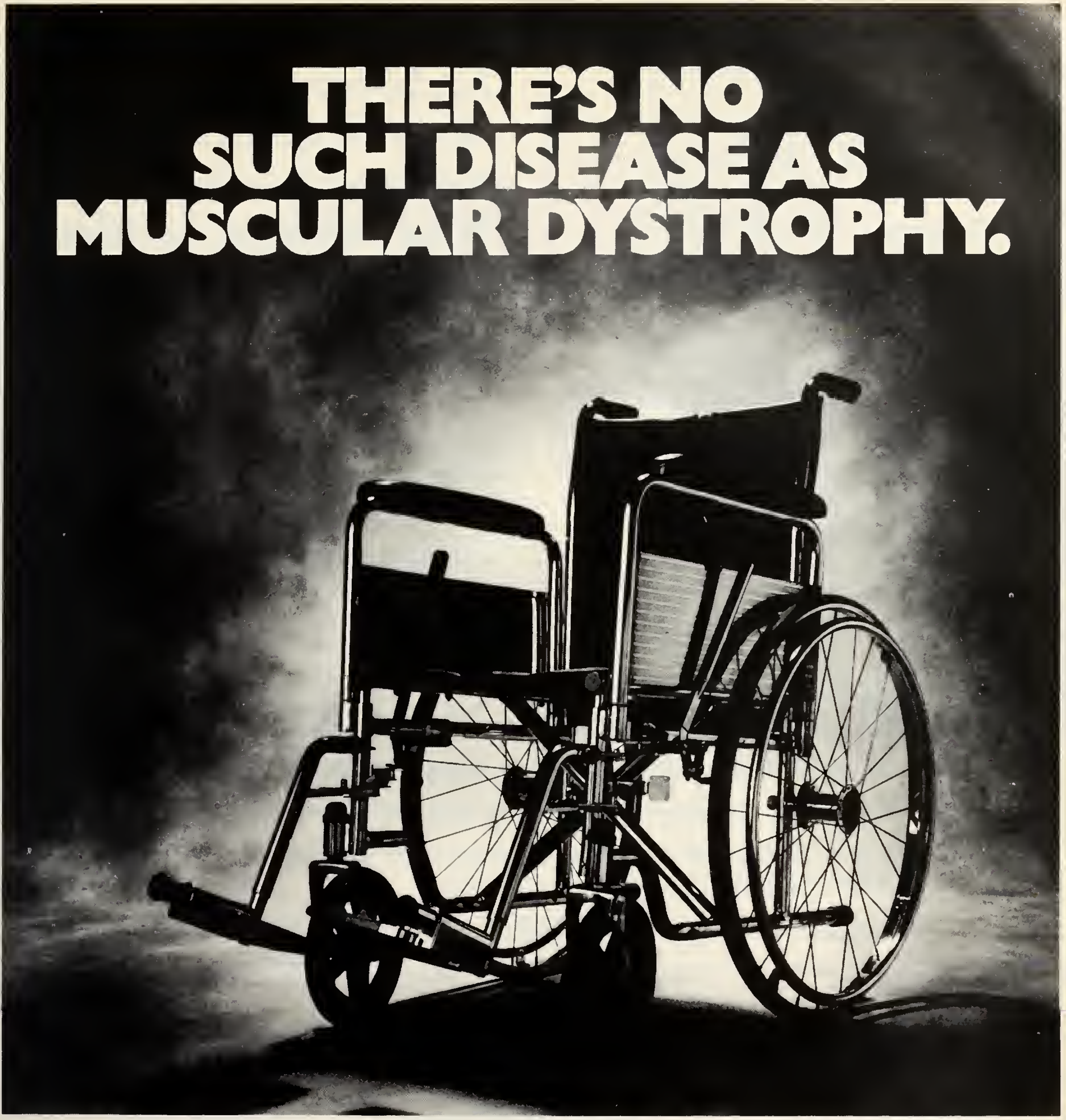
THERE'S NO SUCH DISEASE AS MUSCULAR DYSTROPHY.



It's true. Because "muscular dystrophy" is the term for a *group* of twelve diseases—and no one disorder goes by that name.

Other facts about muscular dystrophy might surprise you, too. For one thing, the diseases aren't restricted to children. Anyone can be stricken, at any time.

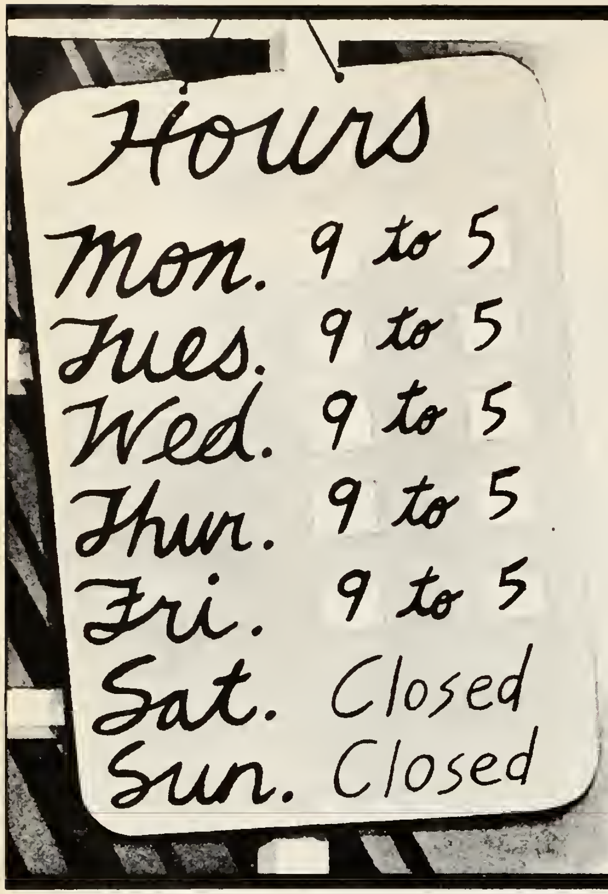
For another thing, the Muscular Dystrophy Association battles not just the twelve muscular dystrophies, but twenty-eight other neuromuscular diseases, too.

At MDA, we're striving to put an end to all the devastating disorders you used to think of as muscular dystrophy.

And one day—we're determined—this chair will be empty for real.

MDA

Muscular Dystrophy Association, Jerry Lewis, National Chairman



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EFFECTIVE MAINTENANCE THERAPY

for healed duodenal ulcer patients

See last page for references and
Brief Summary of Product Information.

Glaxo/ROCHE

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In two randomized, double-blind, and well-controlled clinical trials, ZANTAC 150 mg h.s. significantly superior to cimetidine 400 mg h.s. for maintenance therapy in healed duodenal ulcers.

Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*$p=0.02$
†$p=0.01$
‡$p \le 0.004$
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

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One tablet at bedtime
for maintenance

See next page for references and
Brief Summary of Product Information.

Glaxo/ROCHE®

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Zantac® 150

ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime for maintenance therapy in healed duodenal ulcer patients

References:
1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer. *J Clin Gastroenterol* 1985;7(6):482-487.
2. Gough KR, Korman MG, Bardhan KD, et al: Ranitidine and cimetidine in prevention of duodenal ulcer relapse. A double-blind, randomised, multicentre, comparative trial. *Lancet* 1984;ii:659-662.
3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
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BRIEF SUMMARY OF PRODUCT INFORMATION

The following is a brief summary only. Before prescribing, see complete prescribing information in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicated in:

1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy and is maintained throughout a six-week course of therapy.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DOSAGE AND ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the action of cytochrome P-450 enzymes in the liver, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Lack of experience to date precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in human milk, caution should be exercised when administered to a nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be related to ZANTAC® administration. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain have been reported. There have been rare reports of malaise, dizziness, somnolence, insomnia, vertigo, tachycardia, bradycardia, premature ventricular beats, and arthralgias. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

There have been rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia.

Although controlled studies have shown no antiandrogenic activity, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Incidents of rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia, have been reported, as well as rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

OVERDOSAGE: Information concerning possible overdosage and its treatment appears in the full prescribing information.

DOSAGE AND ADMINISTRATION. Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dosage in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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PRACTICE MANAGEMENT

by George S. Conomikes

This month the non-medical requirements of a practicing physician are reviewed. Since things keep getting between you and your patient, time management skills are critical.

Time management

How many hours a week do you work? Most physicians work too hard and too long. Work weeks of 60-70-80-90 hours are the rule. But the number of hours you can devote to actual patient contact seems to become harder and harder to come by.

"Things" keep getting between you and the patient. These "things" are the non-medical requirements of being a practicing physician.

Non-hands-on tasks facing the physician are listed, roughly, in descending order of time involvement:

- Telephone
- Administration
- Committee work
- Record-keeping, dictation
- Professional reading
- Travel (hospitals, office)
- Delays at the office
- Consultation
- Detail people
- Personal (what's that?)

For many physicians these items account for roughly 50% of your working time. So, if you work 60 hours a week, you're lucky if you are with patients (at the office and in hospital contact) for 30 of those hard hours.

Dr. Addis C. Costello, a Milwaukee-based internist, and past president of the Wisconsin Society of Internal Medicine, decided to study his time usage. In the early 1970's, using a stopwatch, he recorded his activities. His findings confirm my own studies of many primary physicians:

- I worked **331 days** out of 365. Some were "short" days; most were long. They all added up to about **3,000 hours** of work in one year.
- I answered 4,850 telephone calls (about 15 per day). This came to **257 hours** of telephone advice and treatment.
- Insurance forms, epilepsy forms, Girl Scout forms, Boy Scout forms, college forms, teachers' certificates, etc., required **500 hours.**
- Hospital committee meetings — **108 hours;** departmental meetings — **36 hours;** medical society meetings — **20 hours.**
- Therefore, these three activities — telephone calls with patients and physicians, forms work, and meetings — were approximately **one-third** of the 3,000 hours I worked in 1970.

Dr. Costello terms this non-hands-on time "of and about the patient" and "not with" the patient.

If you add: medical records work, other administrative tasks, reading, consultation, detail men, travel and delays to Dr. Costello's figures, tack on 15-20% of your time to his 33%. Result: non-hands-on time = 50%.

In my columns, if I can show you how to cut down on your non-hands-on problems, because they frustrate you so much, and if I can help you pick up more hands-on time, you'll gain at both ends.

Routine work

If you are going to have to spend 500 of your 3,000 working hours on forms, forms, forms, it can become an oppressive task if you decide it's oppressive.

Why not set aside a particular time to do your paperwork and do it well? **Don't** do some paper work every day. **Do** a lot of

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Practice Management

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paperwork once a week. There is nothing generally pressing, for most of your paperwork — especially routine stuff — should be handled routinely. Do routine work routinely on your down time, and do it all at once. You'll do it faster, since you'll have a lot facing you. You'll organize your correspondence; you'll go through your forms work speedily.

Therefore, rather than spending five hours (one hour per day for five days), you should speed it up to four hours. You will gain one hour per week. Keep your busy Mondays and Fridays free to practice medicine and see those patients. Do your "scut" paperwork on a slower-than-usual day with specific time set aside.

Employee for forms

Today's physician should attempt to have an employee who has great competence in processing insurance forms.

Ideally, the physician should do little more than review any but complicated medical procedures. The "right" employee should know how to get data from the patient's charts (office and hospital); how to enter the data onto insurance forms; how to complete all insurance forms requirements; when to ask for your help.

At least 20% of the physicians we have in our workshops indicate that they no longer even review any forms going out of their offices. Another 30% do nothing more than sign or spot-check such forms.

Do yourself a favor — get a good person to do your routine "forms" paperwork for you. Sometimes a good bet, especially for the smaller medical office, is to hire a part-time worker whose only responsibility is forms preparation.

Use standard letters

A significant portion of the physician's correspondence can be categorized as being "replicable." In other words, what you want to write to someone is the same as you have already written to someone else. To save time on this type of communiqué, develop a series of "standard" letters.

These can be hand-typed if you want them personalized, but the message is the same. It's called a "stock" letter. If you don't think the message justifies handtyping, then you could resort to form letters, which can be run off by your printer, or by a quick-copy service. Form letters could be on your stationery or in another format.

Some "standard" letters to be considered in the physician's office:

- Discharge of patient from your practice.
- "Thanks" to referring physician.
- Response to attorneys concerning their requests for patient information.
- Explanation to insurance companies indicating why you use AMA approved Health Insurance Council forms, instead of theirs.
- Informing patients, and the physician, when patient records are sent to another physician.
- Response to insurance carriers requesting summary of findings on one of your patients.
- Answers to written requests for charitable donations.

If you follow these simple suggestions, then you should create more time for yourself, as well as a more efficient working environment. ■

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Endoscopic Sclerotherapy as Early Treatment in Bleeding Esophageal Varices

A Preliminary Report

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A new technique for the management of bleeding esophageal varices, endoscopic sclerotherapy has a number of advantages over portosystemic shunting and other surgical procedures. The technique does not require administration of general anesthesia and preserves hepatic portal flow. The authors report a series of 31 patients treated by endoscopic sclerotherapy.

Bleeding esophageal varices have proved to be a difficult management problem in the cirrhotic patient. Attempts at portosystemic decompression to control bleeding have met with varying results. Warren and colleagues[1] have reported operative mortalities of 4% and 14% respectively in selective and nonselective portosystemic shunts in elective situations. In the acutely bleeding patient, results have been more discouraging. Sarr and coauthors[2] reported an operative mortality of 24% using the mesocaval shunt, and Orloff and coworkers[3] described a 51% early mortality in poor-risk patients undergoing portacaval shunting. Late morbidity, consisting primarily of portosystemic encephalopathy, has been equally troublesome, affecting from 32% to 61% of patients with nonselective shunts[4-6] and approximately 10% of patients with selective shunts.[1] In an attempt to preserve portal flow to the liver, Suguira and Futogawa[7] developed a devascularizing operation on the esophagogastric region designed to interrupt portal-azygos communication. However, a recent report by Gouge and Ranson[8] described a 9.5% operative mortality and a disappointingly high 37% incidence of rebleeding with this procedure. Endoscopic sclerotherapy (ES) has gained popularity for treatment of bleeding esophageal varices because it does preserve hepatic portal flow, does not usually involve administration of general anesthesia, and avoids the complications of thoracic and abdominal incisions. Potential complications include rebleeding and local esophageal problems with injection of the sclerosant. Beginning in 1982 we have used ES as initial treatment in the management of bleeding esophageal varices.

Patients and Methods

From September 1982 through June 1986, 31 consecutive patients were treated by ES for bleeding esophagogastric varices. The cause of the patients' liver disease was determined by clinical evaluation, which did not include liver biopsy in all cases. Patients were assigned a Child's group score based on estimation of hepatic reserve at the time of initial ES. Stabilization of the patients was attempted by vigorous fluid resuscitation, correction of coagulation abnormalities, use of intravenous vasopressin, and use of the Sengstaken-Blakemore tube. Prophylactic antibiotics were administered prior to ES. Careful lavage of the stomach with a large-bore tube and meticulous attention to airway protection to prevent aspiration was necessary, particularly in the actively bleeding patient. After the oropharynx had been locally anesthetized and the patient sedated, a double-channel or therapeutic channel endoscope was passed into the esophagus and stomach. Diagnostic gastroduodenoscopy was performed to rule out nonvariceal sources of bleeding. The endoscope was withdrawn into the esophagus and a flexible sclerotherapy needle inserted into the working channel. Sodium tetradecyl sulfate alone or in combination with thrombin was used as the sclerosant in all cases. An attempt was made to inject the sclerosant directly into the lumen of the varix, but a perivariceal injection was frequently obtained. Following injection, the distal esophagus was observed for several minutes for possible back bleeding. The stomach was then suctioned free of gas, blood, and liquid contents and the endoscope withdrawn. Following injection, sessions were scheduled at the discretion of the endoscopist, but at least one additional session was completed within the first week. After that, sessions were usually scheduled at two-to four-week intervals. Initially all sessions required at least one day's hospitalization for observation, but recently the follow-up injections have been done as outpatient procedures.

Results

There were 15 men and 16 women in the study group. Where applicable, values are expressed as mean ± standard deviation. The mean age was 59.5 ± 14.6 years with a range of 18 to 83 years. The causes of the patients' liver disease are listed in Table 1. Alcoholic cirrhosis was the cause in 35% of the patients. Using Child's estimation of hepatic reserve, 12 patients were grouped A, 13 grouped B, and six grouped C. Twelve patients died during the follow-up period. Seven of them died during their initial hospitalization, for an in-hospital mortality of 23%. The remaining five died at 2 months, 12 months, 14 months, 28 months, and 28 months following their ES. The cause of death was liver failure in eight (67%), aspiration pneumonia in two, hepatocellular carcinoma in one, and sudden cardiac arrest in one. Two of the deaths were Child Class A patients, six were Child Class B, and four Child Class C.

Table 1
Causes of Liver Disease in 31 Patients

Alcoholic cirrhosis	14
Cryptogenic cirrhosis	11
Sclerosing cholangitis	2
Hemachromatosis	1
Methotrexate	1
Nodular hyperplasia	1
Metastatic carcinoma	1

Treatment by ES was initially or eventually effective in stopping acutely bleeding varices in 28 of 31 patients (90%). A total of 112 ES treatments were performed in these 31 patients (mean 3.61 ± 2.74). Fifty-one of the ES treatments were performed during the initial hospitalization. The initial ES treatment was successful in stopping variceal bleeding in 20 patients. Two patients' bleeding was not controlled initially with ES, and they subsequently died. There were 15 rebleeding episodes, which occurred in 10 patients, following initial ES. Repeated ES treatments were successful in controlling bleeding in nine of these 10 patients, but two subsequently died: one of aspiration pneumonia and one of liver failure after control of a ruptured ileal varix. In one patient the outcome of the rebleeding episode was unknown.

A total of 185 units of blood were required among 24 patients (mean 7.71 ± 4.62) prior to ES. Seven patients did not require transfusion. Following initial ES, nine patients required a total of 43 additional units (mean 4.78 ± 2.77) either during the same hospitalization or during subsequent admission for variceal rebleeding.

Initial hospitalization for variceal bleeding totalled 468 days among 31 patients (mean 15.1 ± 12.2 days). Sixteen patients required readmission. There were a total of 48 additional admissions for recurrent bleeding or followup ES, amounting to 188 days (mean 3.92 ± 4.43 days per admission). Of the 24 patients who survived their initial hospitalization, nine (38%) developed local complications from ES treatments. Four patients were found to have distal esophageal strictures which required dilatation. Five patients were found to have distal esophageal ulcers which eventually healed. One patient developed prominent duodenal varices which have not bled.

Life table analysis of the patient population is depicted in Table 2. The majority of deaths occurred during the first years (reflecting the high hospital mortality). Forty-nine percent of the patients were alive at two years post procedure.

Table 2
Life Table Analysis of 31 Patients
Treated with Endoscopic Sclerotherapy

Interval (months)	*No. Exposed to Risk*	*Cumulative Proportion Surviving*	*Standard Error of Cumulative Surviving*
12	15	0.61	±0.09
24	11	0.49	±0.11
36	4	0.49	±0.11

Discussion

Endoscopic sclerotherapy has been shown to be effective in stopping initial bleeding from esophageal varices. Terblanche and coauthors[9] reported successful control of bleeding in 95% of their patients. Our results have also demonstrated that ES was therapeutic in at least temporarily stopping variceal bleeding in 90% of patients. However, rebleeding has been commonly encountered, varying from 23% to 53% of patients in reported series.[10-14] This has not typically been a major problem following portosystemic shunting either in good-risk[1] or poor-risk[15] patients, where the rebleeding rate is less than 20% for nonselective and less than 10% for selective shunts. We encountered rebleeding episodes in 10 patients (32%) with two subsequent deaths, but nine of the patients were controlled with repeated ES treatments. None of our patients required portosystemic shunting, in contrast to the report of Warren and colleagues[14] in which 11 of 19 patients who rebled following ES underwent portacaval decompression for control of hemorrhage.

Hospital mortality in our group following ES was 23% and was due primarily to liver failure. This agrees closely with the experience of McCormack and associates,[16] who described a 29% mortality. Cello and coworkers[15] cited an initial mortality of 46%, but their series consisted entirely of patients with Child Class C cirrhosis. Overall mortality after two years by life table methods was 51% and correlated closely with the Child determination of hepatic reserve. Seventeen percent of Child Class A patients, 46% of Child Class B patients, and 67% of Child Class C patients died in the followup period. As expected, ES does not seem to affect the course of end-stage liver disease. Portal blood flow is not diverted, and ES theorectically would not hasten deterioration of liver function.

Complications of ES occurred frequently in our series (38% of patients) but generally were easily managed. Complications consisted of either distal esophageal ulcers which healed spontaneously or distal esophageal strictures which required at least one dilatation procedure for relief of symptoms. This parallels the experience of others,[11, 12] who also described a high incidence of mucosal ulceration. We have noticed, however, the appearance of ectopic varices in two patients, one who developed duodenal varices without bleeding, and one who developed ileal varices from which she spontaneously bled and subsequently died. Formation of ectopic varices has been reported at least once by Keane and coauthors[17] and may be best treated by portosystemic shunting.

For complete obliteration of esophageal varices, multiple ES sessions were required — averaging three to four per patient. Follow-up treatments initially were accompanied by an overnight stay in the hospital, but recently we have been comfortable performing these on an outpatient basis.

Mortality following ES has not been significantly different from that experienced with portosystemic shunting and generally reflects the severity of end-stage liver disease. The rebleeding rate is high, but rebleeding episodes have usually been easily controlled with repeat ES sessions. Morbidity has not been significant and has been easily treated. We have been most impressed by the relative ease with which ES can be administered and the effectivenesss with which bleeding can be controlled even though several ES sessions may be required. In addition, we have seen a high degree of patient tolerance, and are impressed with the advantage over portosystemic shunts of preserving portal blood flow. Because of these factors in our experience, ES has replaced portosystemic shunting in the initial management of bleeding esophageal varices.

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Reprints

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Primary Melanoma of the Esophagus

A Case Report

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Primary melanoma of the esophagus is a rare disease with a poor prognosis. Surgical resection with anastomosis is the primary treatment, mainly palliative. Future investigations, the authors suggest, should focus on the role of radiation therapy and regional node dissection in increasing survival rates.

Primary malignant melanoma of the esophagus is a rare clinical entity. In fact, the existence of these tumors was refuted for many years. More recently, however, the clinical and histological features of these tumors have been evaluated.[1, 2] Our case report typifies many of the features of this tumor.

Case Report

An 85-year-old white woman developed progressive dysphagia over a period of two months. She became unable to swallow solid food, which she said caused her "to fill up" and then vomit. She was, however, able to take liquids. Her medical history was unremarkable. She had no recollection of a skin lesions ever being removed and she denied any appreciable weight loss.

Her physical examination was within normal limits and specifically showed no evidence of any cutaneous, ocular, or anal lesions consistent with malignant melanoma. Her liver was normal in size and no pathological lymph nodes were present. Her laboratory studies were within normal limits. A barium-swallow x-ray examination showed an irregular, lobulated filling defect in the distal esophagus (Fig 1). Flexible endoscopy revealed an ulcerated polypoid mass, gray-green to black, located in the lower esophagus, which appeared to move freely on a stalk. Bi-

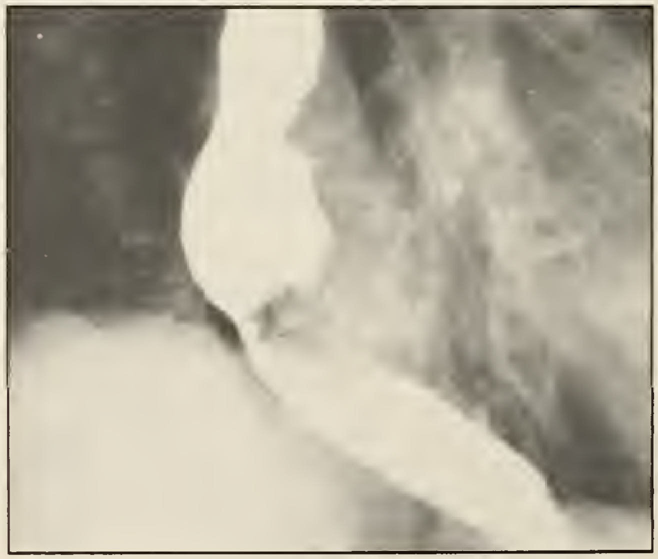

Fig 1: The barium swallow shows an irregular polypoid lesion in the distal esophagus. The barium passes readily beyond the lesion.

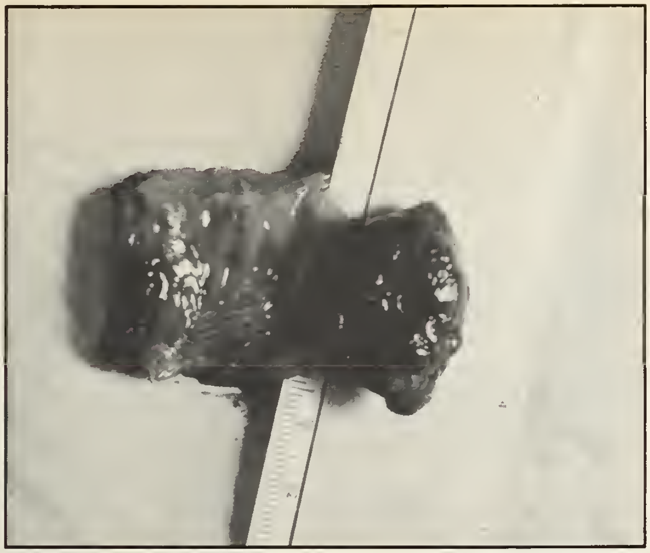

Fig 2: Segment of resected esophagus showing polypoid tumor.

opsy specimens from the lesion showed malignant melanoma. A computed tomographic (CT) scan of the chest and abdomen, and a chest x-ray were done and no metastatic disease could be identified.

Because of her age, the patient underwent a palliative distal esophagectomy and esophagogastrostomy. The resected esophagus contained a 3-cm black, polypoid mass on a 1-cm pedunculated stalk (Fig 2). Microscopic examination of the lesion revealed malignant melanoma (Fig 3). The patient's postoperative course was prolonged by atelectasis and poor appetite, but she was subsequently discharged in satisfactory condition.

The patient initially did well. However, eight months after resection, she developed progressive weakness and some difficulty with swallowing. Repeat endoscopy showed a slight stenosis at the anastomotic site and a small black nodule proximally. The stenosis was dilated successfully and a biopsy of the nodule was obtained. Pathologic examination demonstrated recurrent melanoma.

Her subsequent evaluation included a repeat CT scan, which showed bilateral pleural effusions and periaortic lymphadenopathy as well as several large metastatic lesions in the liver. Although the patient could swallow well, she became progressively more anorectic, developed jaundice and pulmonary failure and died. The time from onset of symptoms to death was approximately 11 months.

Discussion

Malignant melanomas are tumors arising from melanocytes — pigmented cells containing melanin that are present in the basal layer of the epithelium.

Melanocytes are neuroectodermal in origin. They arise from the neural crest and migrate embryonically to various sites, including the skin, the choroid layer of the retina, the brain, and the epithelium of some parts of the digestive system, i.e. the mouth, gallbladder, anus and, rarely, the esophagus.[1, 2] Melanocytes have been found in 4%-8% of the esophageal mucosa of normal subjects.[3-5]

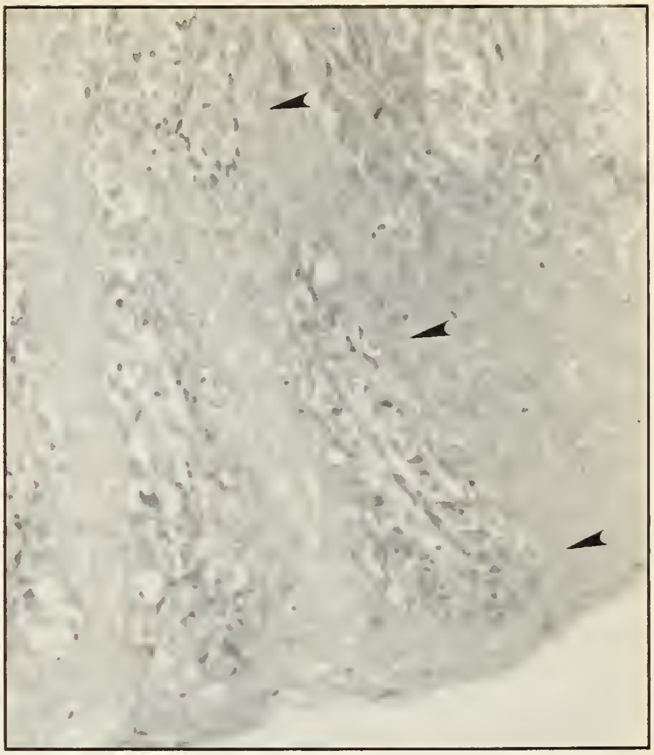

Fig 3: Photomicrograph of the edge of the esophageal tumor shows squamous epithelium of the esophagus. Pagetoid melanoma cells are in the basal layer and progress to columns of cells (arrows).

At least 77 primary melanomas of the esophagus have been reported, and a substantial number of these meet the criteria for a primary lesion, as suggested by Allen and Spitz.[6-9] These criteria include the presence of abnormal-appearing cells in the basal layer of the mucosa adjacent to the tumor (junctional change), and the presence of invasion of the basement membrane.

Most patients present with weight loss and dysphagia with solid food but not liquids. This may not be progressive and may be different from the more common squamous cell carcinoma of the esophagus, in which the natural history is one of a progressive dysphagia first with solid foods, then with liquids, and finally with their own saliva. This may be due to the fact that in squamous cell carcinoma, the tumor grows circumferentially and, in most cases, progresses to a severe stenosis or a complete obstruction. In esophageal melanomas, however, the lesions are polypoid, often pedunculated and mobile and are more likely to allow liquids to pass. Others symptoms that occasionally occur are epigastric pain or upper gastrointestinal bleeding.

The median age of patients at diagnosis is 62 years, and esophageal melanomas are slightly more common in men.[2] The physical examination is usually unrevealing unless metastases have occurred. The barium swallow x-ray examination readily demonstrates the lesion as a lobulated filling defect, most commonly seen in the distal or middle third of the esophagus. Endoscopic examination usually reveals a bulky, polypoid black mass, often on a stalk. Areas of ulceration may be present. Biopsy will usually establish the diagnosis.

Histologically, marked cellularity is seen. Large, pleomorphic polygonal cells with large nuclei are common. Mitoses are frequent and the pigmented granules of melanin can be seen with special stains. Metastases occur early and most commonly involve the periesophageal lymph nodes. Other areas of spread are to the lungs, liver, bone and celiac lymph nodes.[2]

Surgical resection with anastomosis is the primary treatment, even when simply palliative for relief of dysphagia. The extent of resection necessary has not been clearly defined. The removal of adjacent node-bearing tissue has not been shown to be beneficial, although this has been suggested by one author.[6]

The prognosis is poor, even after removal of all known tumor. In Mills' collection of 48 patients, only 27 received potentially curative surgery.[2] Ten of these died of metastases within 15 months of surgery, and one additional patient had developed recurrent tumor. Only 12 of 27 were free of disease after a median follow-up period of 13 months. The median survival rate of patients not undergoing surgery was 1.5 months, excluding two patients receiving radiation therapy who each survived for 51 months.

Why the two patients who received radiation therapy had increased survival was not stated. Cutaneous melanomas are now thought to vary widely in their response to radiation therapy, and some tumors are sensitive.[10] Whether or not radiation therapy would be useful for this type of melanoma is not known.

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Takayasu's Disease Presenting as a Thoracoabdominal Aneurysm in an 18-Year-Old

Brent T. Allen, M.D., Charles B. Anderson, M.D., and Gregorio A. Sicard, M.D.
St. Louis, Missouri

The authors describe the case of an uncommon inflammatory disease of the large blood vessels in a young man. The uncertain etiology of the disorder and current management techniques are discussed.

Vascular disease is an uncommon affliction in the pediatric or adolescent population. In contrast to degenerative or occlusive vascular diseases found in adults, the vascular disorders in younger age groups more commonly result from congenital, traumatic (including iatrogenic) and mycotic lesions. Takayasu's arteritis is an uncommon inflammatory disease of large blood vessels that can produce both occlusive and aneurysmal vascular lesions. It carries a significant degree of morbidity and mortality because of ischemic complications associated with the development of occlusive lesions in the aorta and branch vessels, or rupture of aortic aneurysms.[1,2] We report the successful management of an 18-year-old patient with a thoracoabdominal aneurysm resulting from Takayasu's arteritis.

Case Report

A 15-year-old black boy was first seen in the St. Louis Children's Hospital complaining of headaches, weight loss, and facial weakness. Physical examination demonstrated a tall, thin boy in no distress. Vital signs were normal. A left-sided Bell's palsy was noted on neurological examination. The physical examination was otherwise unremarkable. Chest x-ray was normal, and an electrocardiogram demonstrated mild left ventricular hypertrophy. Hemoglobin was 6.9, hematocrit 26.3, white blood cell count was 7,700 with a normal differential and iron-deficient red cell indices. Blood chemistries were normal. Evaluation of his anemia included upper gastrointestinal and barium enema studies, both of which gave normal results. Liver spleen scan and intravenous pyelogram results were normal. Erythrocyte sedimentation rate was 65; PPD was negative. Immunological studies revealed an elevated IgG, IgA, and IgM. Coombs' tests, both direct and indirect, were negative. A bone marrow aspiration analysis was normal. A head computerized tomograph (CT) scan was normal; abdominal CT scan demonstrated a 5.5 cm thoracoabdominal aneurysm extending from T_{10} to L_2. Cardiac and peripheral angiography indicated normal coronary arteries and aortic valve. The angiogram confirmed the presence of the descending thoracic and abdominal aortic aneurysm. The visceral arteries and left renal artery originated from the body of the aneurysm. The uninvolved aorta and all visceral and renal arteries were normal in caliber (Fig 1).

The aneurysm was thought to be mycotic in nature, but repeat blood cultures were negative, as were fungal titers and tests for syphilis. Replacement of the aneurysmal aorta was discussed with the patient and family, but they refused surgery because of the risk of paraplegia. The patient was observed closely with serial CT scans of the abdomen, which indicated no progression of the aneurysm. His anemia and Bell's palsy resolved, and the elevated ESR and gamma

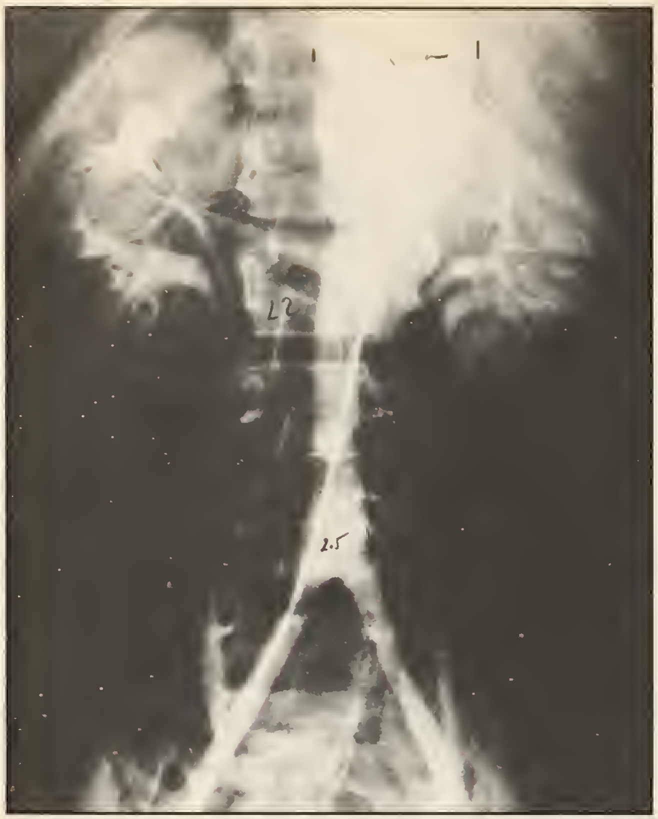

Fig 1A: Aortogram demonstrated 5.5 thoracoabdominal aneurysm in the suprarenal portion of the aorta.

globulins eventually returned to normal over the next few months.

At age 18, the patient developed exertional chest pain and vague abdominal pain. The electrocardiogram was unchanged. A CT scan of the abdomen demonstrated inferior enlargement of the aneurysm, which extended from the diaphragm to and including the iliac arteries. Arteriography confirmed extension of the aneurysm without evidence of rupture. The visceral and coronary arteries remained normal (Fig 2).

The aneurysm was repaired through a left thoracoabdominal incision using no heparin. The renal and visceral arteries, as well as six intercostal arteries, were reimplanted into a woven Dacron aortobiiliac bypass graft. Dissection about the aneurysm was difficult because of an intense periaortic fibrotic reaction.

The patient's postoperative course was unremarkable. Pathologic examination of aortic biopsy specimens from near the aneurysm demonstrated extensive intimal fibrosis with destruction of the medial elastic layer, consistent with Takayasu's arteritis. There was a patchy transmural inflammatory infiltrate composed of lymphocytes, plasma cells, and histiocytes with palisading granulomas (Fig 3). Stains for acid-fast organisms, bacteria, and fungi were negative. Direct immunofluorescence studies of the aortic wall for IgG, IgA, IgM, IgmM and fibrinogen were negative. At three years follow-up, the patient has no complaints and appears to be a healthy teenager.

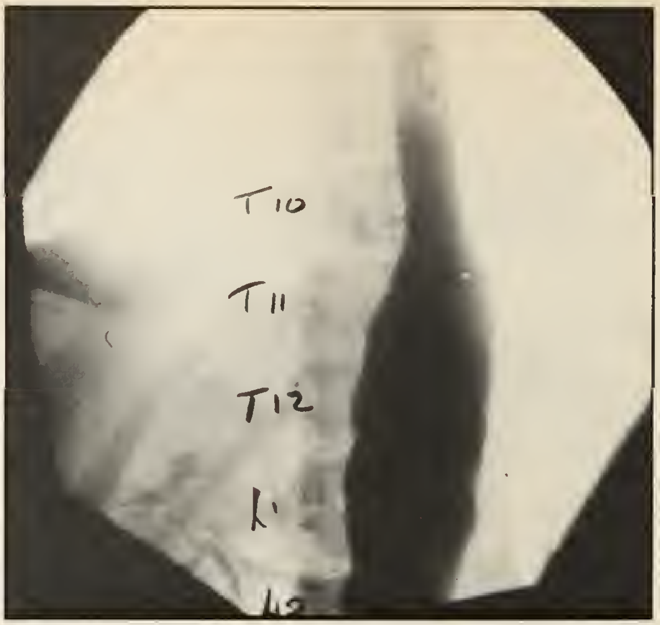

Fig 1B: Note the proximal extent to the level of T_{10}.

Discussion

Takayasu's arteritis typically presents as hypertension owing to its propensity for involving the renal arteries and causing renovascular hypertension. It usually appears in young women. It may involve all segments of the aorta, and has been classified into four types based on the segments involved.[3] In Type I, only the aortic arch and its branches are affected. Type II includes lesions in the thoracic, descending and abdominal aorta. Involvement of the entire aorta is classified as Type III. Occasionally, Takayasu's can manifest itself in the pulmonary artery, usually in combination with one of the other above-mentioned arteries. Involvement of the pulmonary artery is classified as Type IV. Occlusive lesions are most common in each of the four types, but aneurysms in the aorta and its branch vessels can occur. The aneurysms may be the only manifestation of the disease, as in our patient, or they may occur in combination with the occlusive form of Takayasu's. The potentially lethal natural history of the disease is noted in reports documenting a 60%-80% five-year survival.[2]

The factors that promote the development of aneurysmal or occlusive lesions in Takayasu's have not been identified. Furthermore, the agent or agents responsible for the inflammatory nature of the disease are unknown. Many patients with Takayasu's arteritis have evidence of exposure to tuberculosis.[3] The histologic picture of the arteritis has many similarities to tuberculosis, suggesting to many investigators an immunologic mechanism related to tuberculosis as the basis for the disease. Further support comes from reports of the development of an arteritis similar but not identical to Takayasu's when *Mycobacteria tuberculosis* is injected subadventitiously into rabbit carotid arteries.[4, 5] Additionally, tuberculosis is endemic in many of the underdeveloped countries from which

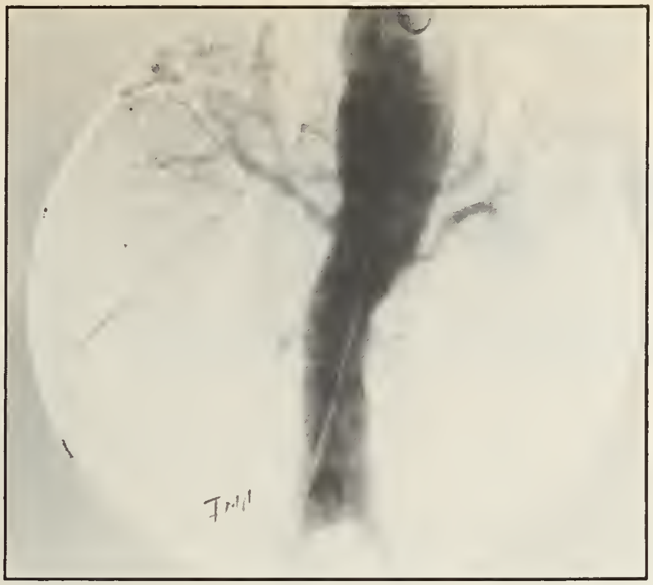

Fig 2: Follow-up aortogram documents progressive aneurysmal enlargement of the distal abdominal aorta.

most of the reports of Takayasu's arteritis have come. The significance of tuberculosis exposure in the pathogenesis of Takayasu's is lessened, however, by the fact that some patients, as the one presented in this report, have no evidence of tuberculosis exposure. Other authors have cited the elevated immunoglobulins and increased erythrocyte sedimentation rate as evidence for an immunologic cause.[6] But these observations may be seen in a variety of inflammatory disorders. Interestingly, some investigators have documented antiaortic antibodies in isolated cases of Takayasu's.[7]

Our patient exhibits the cyclic nature characteristic of Takayasu's arteritis, with an initial acute inflammatory phase characterized by systemic signs and symptoms of weight loss, headaches, and an elevated erythrocyte sedimentation rate. Other abnormalities commonly include fever, joint pain, hypertension, pulse deficits, and vascular bruits.[3] The Bell's palsy found in our patient's initial presentation has not been previously described in association with Takayasu's. The neurologic deficit seen in many patients with Takayasu's is usually a result of ischemic lesions and is not a primary neural disease. Whether the occurrence of Bell's palsy in our patient is yet another manifestation of the arterial disease or merely a coincidence is unknown.

Following a relatively dormant period, our patient's vascular disease recurred in the form of progressive aneurysmal enlargement of the distal aorta, prompting the need for surgical repair. The intense periaortic fibrotic reaction noted at operation is typical of Takayasu's and significantly complicates dissection about the vessels. Our patient was treated with an aortobiiliac bypass graft with inclusion of the visceral arteries, left renal artery, and six large intercostal arteries. Care was taken to implant the prosthesis in grossly uninvolved portions of the vessels.

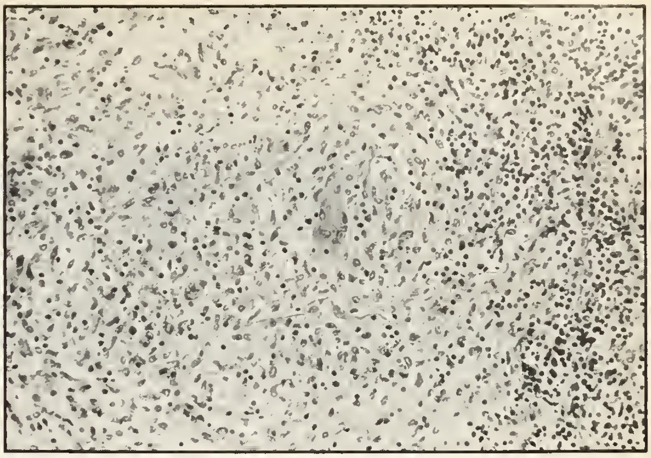

Fig 3: Histologic examination of aortic biopsies indicated initial fibrosis, inflammatory infiltrate and foreign body giant cells (arrow) with palisading granulomas.

This case demonstrates the progressive nature of Takayasu's arteritis and emphasizes the need for close serial follow-up to prevent the often catastrophic complications of the disease. Our patient has done well now three years after aortic replacement and six years after initial presentation, but we continue to observe him for signs of recurrent disease in previously uninvolved vessels.

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New Members

- **Maryellen Amato, M.D.,** 10010 Kennerly, St. Louis 63146, has become a member of the St. Louis Metropolitan Medical Society. Dr. Amato received her preliminary education at Notre Dame College and obtained her medical degree at Case Western Reserve University in 1981. She completed her residency at Washington University and the Mallinckrodt Institute of Radiology, St. Louis, MO. She specializes in diagnostic radiology.

- **Jesse W. Cheng, M.D.,** 1 Hospital Drive, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Cheng received his preliminary education at Yale University and obtained his medical degree at the University of Missouri-Columbia in 1984. He is completing his residency at the University of Missouri Hospital and Clinics, Columbia, MO. He specializes in internal medicine.

- **William P. Cravens, M.D.,** 820 Jefferson, Fulton 65251, has become a member of the Callaway County Medical Society. Dr. Cravens received his preliminary education at the University of Missouri-Columbia and obtained his medical degree at the American University of the Caribbean in 1984. He completed his residency at St. Francis Regional Medical Center, Wichita, KS. He specializes in family practice.

- **John C. Ellis, M.D.,** 4240 Blue Ridge Blvd., Kansas City 64133, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Ellis received his preliminary education at the University of Missouri-Kansas City and obtained his medical degree at UMKC in 1980. He completed his residency at St. Mary's Hospital, Rochester, MN. He specializes in otolaryngology.

- **Edward J. Laughlin, M.D.,** 1515 W. Truman Road, Independence 64050, has become a member of the Metropolitan Medical Society of Greater Kansas City. Dr. Laughlin received his preliminary education at Creighton University and obtained his medical degree at Creighton University in 1976. He completed his residency at Creighton University Affiliated Hospitals, Omaha, NE. He specializes in internal medicine.

- **James A. Monteleone, M.D.,** 1465 S. Grand, St. Louis 63104, has become a member of the St. Louis Metropolitan Medical Society. Dr. Monteleone received his preliminary education at the University of Illinois and obtained his medical degree at St. Louis University in 1962. He completed his residency at Cardinal Glennon Hospital, St. Louis, MO. He specializes in pediatric endocrinology.

- **John E. Scowley, M.D.,** Rt. 4, Box 47, Richmond 64085, has become a member of the Lafayette-Ray County Medical Society. Dr. Scowley received his preliminary education at the University of Alabama and obtained his medical degree at the American University of the Caribbean in 1982. He completed his residency at Western Missouri Mental Health Center, Kansas City, MO. He has not declared a medical specialty.

- **Martin B. Wice, M.D.,** 615 S. New Ballas Road, St. Louis 63141, has become a member of the St. Louis Metropolitan Medical Society. Dr. Wice received his preliminary education at Grinnell College and obtained his medical degree at Northwestern University School of Medicine in 1977. He completed his residency at the University of Cincinnati Hospitals, Cincinnati, OH. He specializes in physical medicine and rehabilitation.

- **William K. Winkelmeyer, M.D.,** 1701 E. Broadway, Columbia 65201, has become a member of the Boone County Medical Society. Dr. Winkelmeyer received his preliminary education at the University of Denver and obtained his medical degree at the University of Missouri-Columbia in 1981. He completed his residency at the Mayo Clinic, Rochester, MN. He specializes in internal medicine.

- **John M. Zylka, M.D.,** 232 S. Woods Mill, St. Louis 63017, has become a member of the St. Louis Metropolitan Medical Society. Dr. Zylka received his preliminary education at St. Vincent College and obtained his medical degree at the University Autonoma de Guadalajara in 1981. He completed his residency at St. Luke's Hospital, St. Louis, MO. He specializes in internal medicine.

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In Memoriam

■ **John J. Forti, M.D.**, died May 1, 1987 at the age of 77. Dr. Forti, a general practitioner, practiced medicine for almost 40 years at the corner of Carter and Marcus Streets in north St. Louis, before retiring in 1975. He obtained his medical degree at St. Louis University in 1935 and served on the staff of St. John's Mercy Medical Center for many years. Dr. Forti was a member of the St. Louis Metropolitan Medical Society.

■ **Bernard Schwartzman, M.D.**, died April 16, 1987 at the age of 77. Dr. Schwartzman, a pediatrician, practiced medicine in St. Louis for more than 40 years. He served as a lieutenant colonel in the Army Medical Corps during World War II and was a clinical professor at Washington University until his retirement in 1978. He obtained his medical degree at the Washington University School of Medicine in 1935. Dr. Schwartzman was a member of the St. Louis Metropolitan Medical Society.

■ **Keith S. Wilson, M.D.**, died March 30, 1987 at the age of 78. Dr. Wilson, certified in internal medicine, practiced medicine in St. Louis. He obtained his medical degree at the Washington University School of Medicine in 1934. Dr. Wilson was a member of the St. Louis Metropolitan Medical Society.

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Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

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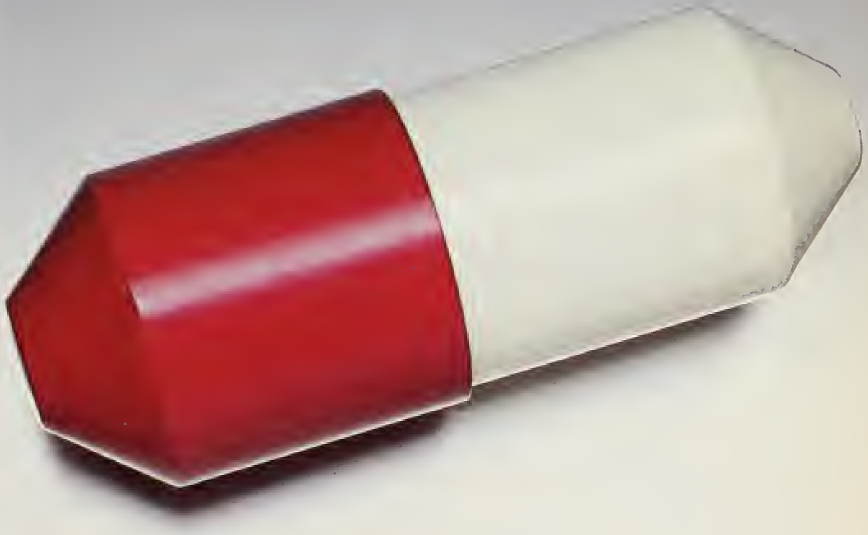

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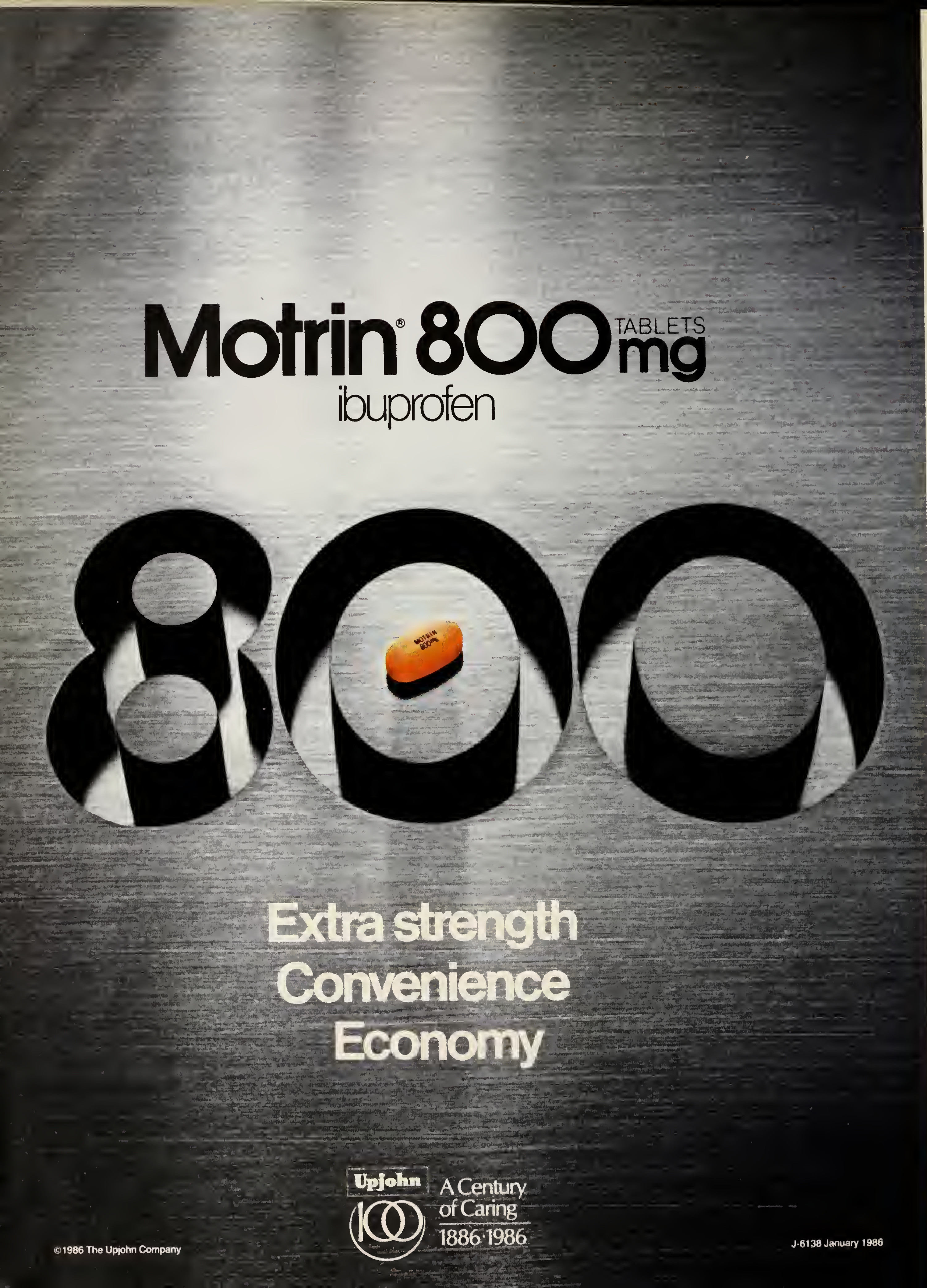
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Medical School News

Washington University

■ **Eugene M. Johnson, Jr., Ph.D.,** professor of pharmacology at Washington University School of Medicine in St. Louis, will conduct research for the next seven years with more than $900,000 in funding from a Javits Neuroscience Investigator Award.

For the last decade, his laboratory has studied nerve growth factor (NGF), a protein discovered in the 1950s at Washington University by Nobel Prize winners Rita Levi-Montalcini and Stanley Cohen with Viktor Hamburger.

Johnson has studied how NGF is transported in the nervous system, how it can prevent the death of neurons caused by certain drugs, which types of nerve cells require NGF for survival and how the requirements change as they develop, and the molecular mechanisms that enable NGF to prevent neurons from dying. His work for which the Javits award was given examines how NGF binds to the Schwann cell, believed to be a key cell in fostering nerve regeneration in the peripheral nervous system.

Johnson is the 10th Washington University faculty member to receive a Javits Award since the highly competitive awards program began in 1983. Award recipients are selected three times a year.

The Javits awards, given to investigators who have submitted regular research grant applications for competitive review, encourage research and research training in communicative and neurological disorders. The U.S. Congress gives the awards in honor of the late Sen. Jacob K. Javits of New York, on recommendation of the National Advisory Neurological and Communicative Disorders and Stroke Council of the National Institutes of Health. Javits was a victim of amyotropic lateral sclerosis (ALS), more commonly known as Lou Gehrig's disease. ALS is a degenerative neuromuscular disorder that attacks the nerve cells that control muscles.

■ **Donald A. B. Lindberg, M.D.,** director of the National Library of Medicine, delivered the seventh annual Estelle Brodman Lecture in April at Washington University School of Medicine in St. Louis.

Lindberg discussed the Unified Medical Language System, which enables doctors to access information for research, teaching and patient care, using normal language.

Lindberg is one of the world's foremost leaders in the field of medical information. The author of numerous books and journal articles, he has explored the problems of biomedical communication and technology application for more than 25 years.

Before joining the National Library of Medicine, Lindberg was a professor of pathology at the University of Missouri-Columbia. He received his medical degree from Columbia University in New York. He has held many offices and editorships and is a member of the Institute of Medicine.

The Estelle Brodman Lecture is sponsored by the Washington University School of Medicine Library in honor of the former library director, herself an authority in the field of information technology.

■ **Donald C. Shreffler, Ph.D.,** professor of genetics at Washington University School of Medicine in St. Louis, has been honored for his scientific contributions by receiving MERIT status for his latest grant.

The grant, which will exceed $1.3 million over a five-year period, is from the National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health (NIH). Shreffler is the fourth medical school researcher to receive MERIT status, which is attached to only a few NIH grants.

Shreffler's research focuses on the genetics of the immunologic system and, specifically, on the genetic basis for organ and tissue transplant rejections.

Shreffler joined Washington University in 1975. In 1977, he was named James S. McDonnell Professor and Head of Genetics, a position he held for seven years. He earned his Ph.D. from the California Institute of Technology in 1962.

■ **Michael M. Karl, M.D.,** has been named Director of Clinical Affairs in the Department of Medicine at Washington University School of Medicine in St. Louis.

In assuming his new post, Karl is closing the private internal medicine practice he has maintained in St. Louis for more than 40 years. In his new position, he will coordinate a number of programs dealing with clinical medicine and practice, and will head a newly-formed general medicine consult/teaching service.

Karl's association with the medical school began in 1940, when he was named an assistant in the Department of Medicine. He opened his own practice in 1946, joining the medical school's clinical faculty as an assistant professor in 1950. He was named professor of clinical medicine in 1972. He is on staff at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center, and at St. John's and St. Luke's hospitals.

Karl received his medical degree in 1938 from the University of Louisville. He served an internship and residency in internal medicine at St. Louis City Hospital, and a fellowship in cardiology at Washington University School of Medicine.

Active in planning health and social services for the elderly in St. Louis and throughout the nation, Karl was one of 40 members of a national advisory committee appointed by the President to the White House Conference on the Family. He is governor of the American College of Physicians for the State of Missouri, and is a member of the Institute of Medicine of the National Academy of Sciences.

Karl is also a diplomate of the American Board of Internal Medicine, a fellow of the American College of Physicians, and a member of the St. Louis Medical Society and Alpha Omega Alpha, the honorary medical society. Last year, he was elected as the part-time representative to the Executive Faculty of the School of Medicine, the school's governing body.

The Irene E. and Michael M. Karl Professorship in Endocrinology and Medicine was established at the medical school in 1983 by anonymous donors. The professorship, as well as the Karl lectureship, honors Karl and his wife, a research professor in medicine for the Division of Metabolism and Endocrinology in the Department of Medicine, for their many contributions to the School of Medicine.

■ **Gary Paige, M.D., Ph.D.,** has received a nearly $700,000 five-year grant from the National Institutes of Health to study how the body's equilibrium systems degenerate with age.

Paige is assistant professor of otolaryngology, ophthalmology and neurology at Washington University School of Medicine in St. Louis.

One-quarter to one-third of elderly adults fall each year, Paige says, and the resulting hip fractures, head injuries and other traumas make falling a major public health problem among older people. He hopes to learn why people are more likely to fall as they grow older.

Specifically, Paige and his colleagues at the School of Medicine's Vestibular and Oculomotor Laboratory are zeroing in on how aging affects the three sensory systems normally responsible for maintaining equilibrium: the visual system, somatosensory system (tactile) and vestibular system (involving the balance organs of the inner ear).

Equally important, Paige is studying how age affects the brain's ability to coordinate the activities of these three systems, as well as its ability to adapt to losses in any of the three systems.

■ **Gara M. Sommers, M.D.,** a second year fellow in obstetrics and gynecology, was one of ten gynecologic oncology fellows in the United States considered for the Oncology Fellowship Research Award. Created by the Society of Gynecologic Oncologists (SGO) to encourage promising young doctors to pursue basic cancer research, the award carries a $5,000 grant to support the recipient's work.

Sommers was honored for her research to treat cancer cells by using drug analogs, chemical compounds that are like certain drugs in structure but different in composition. Specifically, Sommers is testing various analogs of a powerful chemotherapy drug, Adriamycin, and trying to attach them to monoclonal antibodies that can be aimed directly at ovarian cancer cells. This direct delivery method is designed to treat tumors effectively while bypassing the heart, liver and kidneys.

The research was supported for the last three years by the Missouri chapter of the Fraternal Order of Eagles. Adria Corporation, which manufactures Adriamycin, contributed large quantities of the drug to the project.

Sommer's lab training was supervised by **Frederick Sweet, Ph.D.,** professor of reproductive biology at the School of Medicine. After completing her Washington University fellowship, Sommers plans to use her SGO grant to continue her cancer research at the Vrije Universiteit Medical School of Amsterdam. There she will undergo advanced training with B. Ramanath Rao, Ph.D., director of cancer and endocrine research and a former Washington University School of Medicine faculty member.

St. Louis University

■ **James R. Kimmey, M.D., M.P.H.,** has been named director of the Center for Health Services Education and Research (CHSER) at St. Louis University Medical Center, effective June 1. He will also hold a faculty position as professor of community health.

Dr. Kimmey joins the medical center after working as an independent consultant in health care management and serving on the clinical faculty in the department of preventive medicine at the University of Wiscon-

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sin, Madison. He has provided consultation for health care organizations in 23 states, including Missouri, covering such topics as health care financing and government; education in health services administration; public health; and health planning.

As director of CHSER, Dr. Kimmey will lead a staff of 11 full-time faculty, 18 part-time faculty, a support staff and more than 130 graduate students. CHSER was formed in 1979 to promote research and graduate training in health care management and delivery. Programs now include graduate degrees in health administration, public health, pastoral health care and health services research.

Dr. Kimmey fills the vacancy left when previous CHSER director **Thomas C. Dolan, Ph.D.**, took a position with the American College of Healthcare Executives in August 1986. Since that time, **Richard S. Kurz, Ph.D.**, has served as CHSER's acting director.

Dr. Kimmey received his medical degree from the University of Wisconsin in 1961 and his M.P.H. from the University of California, Berkeley, in 1967. In 1976 he helped form the Institute for Health Planning, and served as its president for 10 years. Among the organizations for which he has provided consultation are the Paralyzed Veterans of America, the Catholic Health Association, and the State of Texas' Department of Human Services. He also served as executive director of the American Public health Association. Dr. Kimmey is a member of numerous professional organizations and has written and spoken frequently on the concerns of health care planners.

■ The National Heart, Lung and Blood Institute (NHLBI) has awarded a five-year, $788,053 renewal grant to **William H. Elliott, Ph.D.**, professor of biochemistry at St. Louis University School of Medicine. He will continue to study the way that cholesterol and other related sterols are used and disposed of in the body.

Dr. Elliott has been funded by the NHLBI for studies of sterols for the past 25 years. He has been on the faculty at St. Louis University since 1944. In addition to his position in the department of biochemistry at the medical school, he is professor of chemistry in the college of arts and sciences.

■ **Lisa Dunkle, M.D.**, professor of pediatrics at St. Louis University School of Medicine, has received a one-year, $36,330 grant from Pfizer Pharmaceuticals. The funding will be used to study the safety and efficacy of a new drug regimen used to treat bacterial meningitis in children.

Dr. Dunkle will compare the effectiveness of a new combination of drugs, ampicillin/sulbactam, to standard drug therapy used against bacterial meningitis. "The new therapy offers less frequent infusions and allows us to avoid a drug in the standard treatment that can cause rare, but serious side effects," said Dr. Dunkle.

Dr. Dunkle is a fellow in the Infectious Disease Society of America, and a member of the Midwest Society for Pediatric Research and the American Society for Microbiology. She has published more than 35 articles and abstracts pertaining to her various research projects.

The University of Missouri-Columbia

■ **William C. Allen, M.D.**, recently retired professor of family and community medicine, was honored April 2 by the Missouri House of Representatives with a formal resolution recognizing his numerous contributions to family medicine.

■ **Bernard Ewigman, M.D.**, assistant professor of family and community

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medicine, has been awarded a five-year multimillion dollar research award by the National Institutes of Health for his part in a collaborative study with Harvard University, Washington University and George Washington University. The "Randomized Trial of Routine Prenatal Ultrasound" is designed to provide definitive evidence in the ongoing debate over the value of routine use of ultrasound through evaluation of 15,500 patients. Dr. Ewigman, principal investigator of Missouri's part of the study, along with co-principal investigator **Michael Lefevre, M.D.,** associate professor of family and community medicine, will begin the enrollment phase of the study this fall.

- **Ramareddy Guntaka, Ph.D.,** associate professor of microbiology, has been awarded a three-year, $402,161 grant from the EPA under the Safe Water Drinking Act for research on the "Mechanics of Non Genotoxic Carcinogens Found in Drinking Water." Dr. Guntaka also chaired last year's International Congress of Microbiologists held in Manchester, England.

- **Arshad Husain, M.D.,** professor of psychiatry and chief of the child and adolescent psychiatry section, was recently elected a Fellow of the Royal College of Psychiatrists of England. A member of the faculty since 1970, Dr. Husain is the author of numerous articles on child psychiatry as well as a book, *Suicide in Children and Adolescents.*

- **Hyun Dju Kim, Ph.D.,** professor and chairman of pharmacology, conducted research on energetics of penguin erythrocytes in Tasmania in March of this year and was an invited speaker of a symposium held by the Tasmania Hematology, Immunology and Neoplasia group.

- **Gerald T. Perkoff, M.D.,** curators professor of family and community medicine, chaired the Annual Robert Wood Johnson Foundation Research and Development Meeting this March in New Orleans, LA. Dr. Perkoff was also recently invited to lecture on "The Family and Health: Search for the Reality Within an Ideal" to the International Congress on the Family and Health in Milan, Italy.

- **Michael Perry, M.D.,** professor and chairman of medicine, was principal investigator of research published in the April 9, 1987 issue of the *New England Journal of Medicine* which shows for the first time that combined radiation and chemotherapy provides the best treatment for most small cell lung cancer patients.

- **Hugh E. Stephenson, Jr., M.D.,** professor and chief of general surgery is the first Dr. John Growdon Distinguished Professor in Surgery. **John Growdon, M.D.,** a retired surgeon who practiced for 40 years in Kansas City, established the professorship to honor outstanding professors he had while at the University of Missouri-Columbia School of Medicine.

- **Weldon Webb,** assistant dean of the University of Missouri-Columbia School of Medicine, has been elected to the Executive Committee of Meeting Planners International (MPI), an organization of more than 8500 professionals worldwide who are responsible for planning and organizing meetings and conferences for corporate, professional and educational institutions. As vice president for internal affairs, Assistant Dean Webb will oversee all standing and special committees dealing with internal affairs and will preside at all MPI meetings and functions in the absence of the president.

University of Missouri-Kansas City

- **Dean Harry S. Jonas, M.D.,** helped graduate his last group of seniors at UMKC School of Medicine May 29, bringing the total number of graduates during his nine-year term as Dean, up to approximately 860, up from approximately 160, when he started his term in 1978. Dean Jonas, who has described this "passing of the torch" to our graduates as one of the things he enjoys most, will continue his career in this field in another vein, joining the American Medical Association July 1 as director of the Division of Undergraduate Medical Education. In this position, he will also act as AMA secretary to the Liaison Committee on Medical Education (LCME), which accredits all medical schools in the United States and Canada.

Dean Jonas also experienced another highlight in his career in late April, with the ending of his presidency of the American College of Obstetricians and Gynecologists (ACOG). During his presidency of the 25,000-member organization, he focused on reducing adolescent pregnancy and the need for abortion.

Before joining the medical school, he spent three years as chairman of the Department of Obstetrics/Gynecology at Truman Medical Center. Prior to that, he was in private practice in Independence, Mo., for 18 years.

- The 92 members of UMKC School of Medicine's Class of 1987 had a full roster of activities the week of their May 29 commencement. Students had their traditional senior banquet, a softball game, and annual **Carl Migliazzo Memorial Lectureship,** for which **Miss Margaret Mahoney,** president of The Commonwealth Fund, a New York-based philanthropic organization, was speaker. In addition, **Richard Rhodes,** author of *Making of the Atomic Bomb,* was keynote speaker for the first meeting of the **Edward J. Twin, M.D., Memorial Society** on May 28. Other events included the School's annual Alumni Reunion and Scientific Seminar, an alumni banquet, and **Dean Harry Jonas, M.D.**'s presentation of a farewell speech after concluding almost nine years as Dean. Dr. Jonas' address was entitled, "The Turning Point Revisited."

- Both junior and senior members of UMKC School of Medicine's chapter of Alpha Omega Alpha (AOA) were inducted at an April 16 banquet. **William A. Peck, M.D.,** was keynote speaker for the event. Dr. Peck, who is Simon Professor of Medicine at Washington University School of Medicine and physician-in-chief at the Jewish Hospital of St. Louis, is well-known for his work in the field of osteoporosis. AOA members of the 1987 graduating class inducted at the banquet were: **Cliff Cokington, Maria DeCastro, Joe Cates, Dawna Clarkston, Mary Beth Eswein, James Finnell, Matthew Matava, Kara Settles Tate, Keith Berstein, Dale Broome, David Glaser, Helen Lee, Louis Portugal, Eric Schwartzkopf,** and **R. Dent Underwood.** Also inducted were recently elected junior members. They included: **Mark Griffin, Jim Hartman, Mike Hinni, Susie Liu, Tom McGinn, John McKenzie, Dave Weber,** and **Chip Zachary.**

In addition, **Kendall McNabney, M.D.,** was named 1987 AOA faculty member; **David L. Hayes, M.D.,** and **Stephen Armstrong, M.D.,** were named alumni members; and **Jeff Emory, M.D., Marcia Kielhofner, M.D.,** and **Thomas Reardon, M.D.,** were named housestaff members.

Three awards were presented to individuals associated with UMKC School of Medicine by UMKC's Alumni Association. The teaching team of **Betty and Tom Hamilton, M.D.,** were presented with the **Elmer Pierson Teach-**

ing **Award,** which recognizes outstanding instructional service. **Daniel Flavin, M.D.,** received the **Alumni Achievement Award,** which recognizes alumni who have achieved exceptional career goals, given outstanding service to the community, and earned a local or regional reputation within their fields. Dr. Flavin, a 1979 graduate, currently is acting medical/scientific officer for the National Council on Alcoholism, and chief of inpatient alcoholism treatment services at St. Vincent's Hospital and Medical Center in Manhattan; he also contributes time to a number of professional and community organizations. **Virginia Calkins,** the medical school's former assistant dean for Student Affairs, was another recipient of the **Alumni Achievement Award** as a 1959 Education graduate. Ms. Calkins, now assistant professor emeritus, was noted for her leadership in education and spirit for the community.

- Distinguished speakers who have visited UMKC School of Medicine and Truman Medical Center recently include **Thorolf Sundt, M.D.,** and **George Maki, M.D.,** both of whom presented Medicine Grand Rounds. On March 20, Dr. Sundt, who is professor and chairman of Neurosurgery at Mayo Clinic and Medical School, presented "Past, Present and Future EC to IC Bypass Surgery." Dr. Maki spoke April 3 on "Pathogenesis, Prevention and Management of Infectious Complications in TPN." He holds several appointments with the University of Wisconsin Medical School and Hospital and Clinics, including head of the section of Infectious Diseases, and hospital epidemiologist and attending physician for the Center for Trauma and Life Support.

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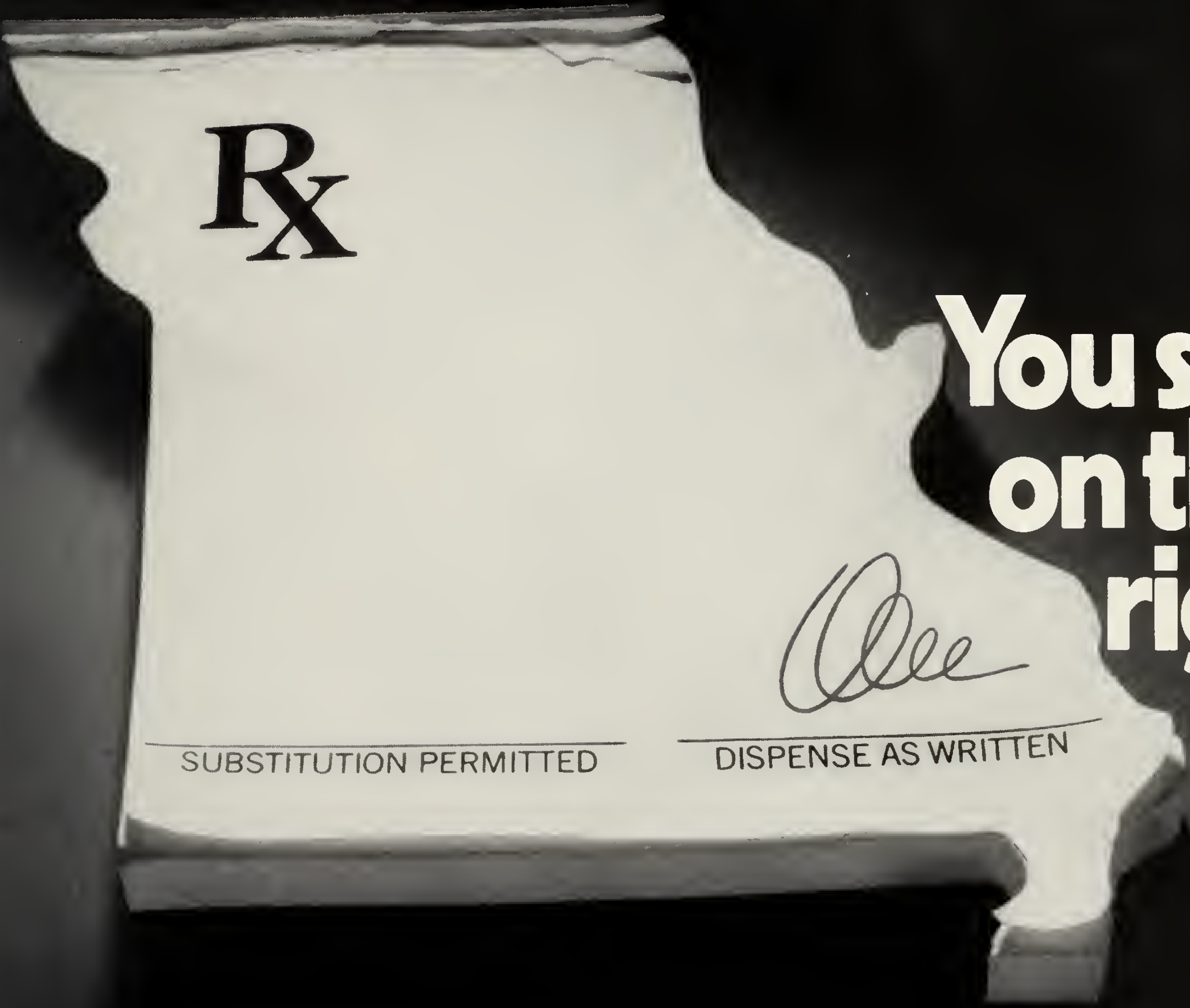
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ZOVIRAX®
(acyclovir)
CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks —month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.

86-ZOV-5

Prevent recurrences month after month*

ZOVIRAX®

(acyclovir)

CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m².

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

Wellcome

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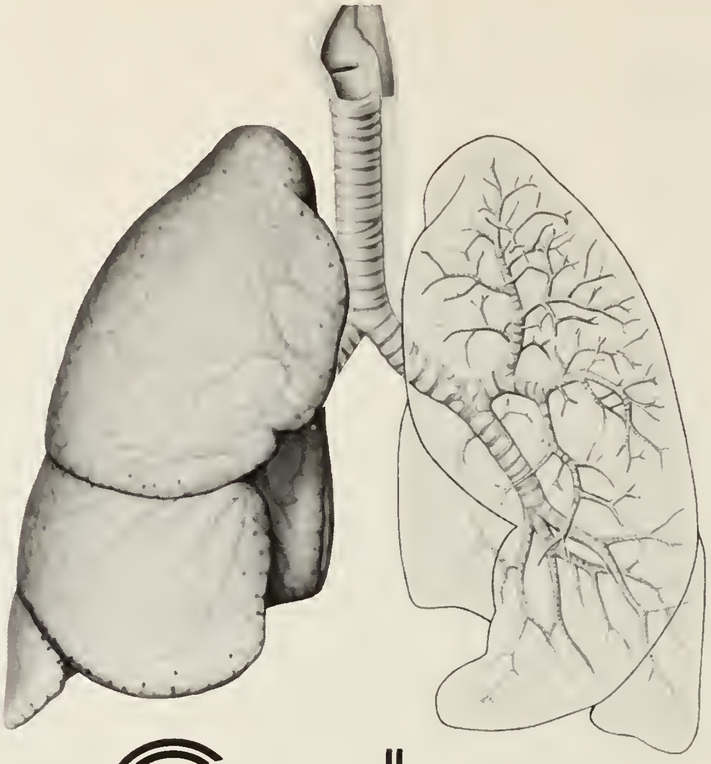

Ceclor® cefaclor

250-mg Pulvules® t.i.d.

offers effectiveness against the major causes of bacterial bronchitis

Haemophilus influenzae, Streptococcus pneumoniae
(ampicillin-susceptible and ampicillin-resistant)

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β-hemolytic streptococci).

Contraindication:
Known allergy to cephalosporins.

Warnings:
CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%; and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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Lilly

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

Eli Lilly Industries, Inc
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Continuing Medical Education

The continuing medical education accreditation program of the MSMA has full approval by the AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. Please remember to include the name of the individual who can be contacted at your institution for additional information about your CME events.

June

11-14 The Family Physician, The People Specialist — Location: Tan-Tar-A, Lake of the Ozarks. Contact: Jean Larson, MAFP, 222 W. Gregory Blvd., Suite 211, Kansas City, MO 64114. 816/363-0322.

12-13 Topics in Developmental and Behavioral Pediatrics — Location: Marriott Pavilion Hotel, St. Louis. Contact: Mary Hummert, Education Coordinator, Room 202, Cardinal Glennon Children's Hospital, 1465 S. Grand Blvd., St. Louis, MO 63104. 314/577-5638.

12-14 Annual Meeting Missouri Chapter of American College of Surgeons — Location: Lodge of the Four Seasons, Lake of the Ozarks. Contact: Linda Wheelen, Executive Secretary, American College of Surgeons, Missouri Chapter, P.O. Box 4562, Springfield, MO 65808.

17 Neuroendocrine Tumors: Pathologic and Clinical Characteristics — Location: Brown Room, Jewish Hospital, St. Louis, MO. Contact: Alan P. Lyss, M.D., Assistant Professor of Medicine, The Jewish Hospital of St. Louis, P.O. Box 14109, St. Louis, MO 63178. 314/454-7000.

18-19 Nutrition Support Group Conference — Location: The Executive Center/Holiday Inn, Columbia, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, Office of Continuing Education, MA215 Health Sciences Center, Columbia, MO 65201. 314/882-4105.

22-26 The Physician in Management — Location: The Antlers Hotel, Colorado Springs, CO. Contact: Sherry Mason, American Academy of Medical Directors, 4830 W. Kennedy Blvd., Suite 648, Tampa, FL 33609. 813/873-2000.

July

18 Interoperative Radiation: A New Combined Treatment Approach to Cancer — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

August

1-8 Rhinology, Rhinologic Surgery and Rhinomanometry — Location UMKC School of Dentistry, Kansas City. Contact: Pat A. Barelli, M.D., course director, 2929 Baltimore, Suite 105, Kansas City, MO 64108. 816/561-4423.

6 Review of Orthopedic Infections — Location: Washington University Medical Center. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

September

2-3 Advanced Cardiac Life Support Provider Course — Location: Francisco Lounge, Student Center, University of Kansas Medical Center. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

9 Sixteenth Annual Wendell G. Scott Lecture — Location: Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, MO. Contact: Ronald G. Evans, M.D., Director, Mallinckrodt Institute of Radiology, 510 South Kingshighway, St. Louis, MO 63110. 314/362-7100.

25 Nutrition Concerns for Women: A Symposium for Health Professionals — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

29-30 Cancer and Aging — Location: Clarion Hotel, St. Louis. Contact: Cheryl Mason, Symposium Secretary, VA Medical Center, GRECC (111G-JB), St. Louis, MO 63125. 314/894-4659.

October

3-4 **Infectious Disease Update 1987** — Location: Tan-Tar-A, Osage Beach, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

9-10 **Allergy, Immunology and Rheumatology: Review and Update** — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

9-10 **30th Annual Physician Alumni Weekend** — Location: UMC School of Medicine, MA217 CME Auditorium, Columbia, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA 215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

15-25 **Allergy Abroad** — Locations: Stockholm, Copenhagen, London. Contact: Loretta Giacoletto, Washington University School of Medicine, Box 8063, 660 S. Euclid, St. Louis, MO 63110. 314/362-6893.

17 **Rheumatology Former Fellows Conference** — Location: Columbia, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

20-21 **Medicine and Religion: Issues in the Eighties** — Location: University of Kansas Medical Center, Kansas City, KS. Contact: David S. Baldwin, M.P.H., University of Kansas Medical Center, CME Office, 39th and Rainbow Blvd., Kansas City, KS 66103. 913/588-4488.

22-23 **Chronic Obstructive Pulmonary Disease Update** — Location: Holiday Inn Executive Center, Columbia, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

November

7 **Rheumatology Update** — Location: Columbia, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

18-20 **Clinical Advances In Pediatrics: A Post-graduate Course** — Location: Children's Mercy Hospital, Kansas City, MO. Contact: Kurt Metzl, M.D., Course Director, Menorah Medical Center, 4949 Rockhill Road, Kansas City, MO 64110. 816/276-8825.

December

7-8 **33rd Annual Urology Seminar** — Location: Hyatt Regency Hotel, Kansas City, MO. Contact: Barry Kling, University of Missouri-Columbia School of Medicine, CME Office, MA215 Health Sciences Center, Columbia, MO 65212. 314/882-4105.

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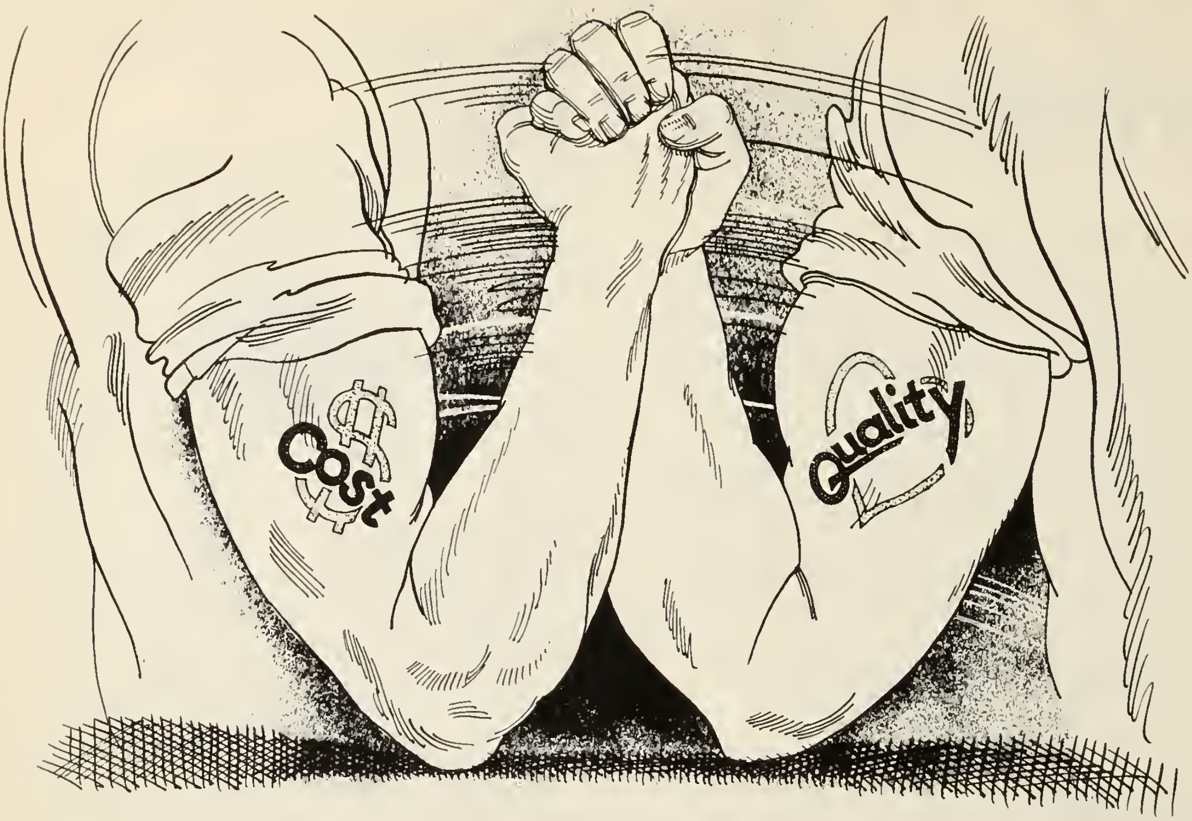

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All advertisements are subject to approval by the Editorial Board prior to acceptance.

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Healthline Physician Services, an affiliate of St. Louis University Medical Center, has part-time and full-time opportunities available for physicians in Emergency Department, Clinic, and Locum Tenens work. We are presently recruiting for emergency departments in St. Louis city and metropolitan area. Excellent compensation, flexible schedules, administrative opportunities and benefits, no "on-call" responsibilities and a challenging medical environment. If you are just starting out, looking for a career change, or want to supplement your income from another source please contact: Barry Trautman, Healthline Physician Services, 3663 Lindell, St. Louis, MO 63108. 800/443-3901.

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Pediatrician to join well-established, 15 physician, multi-specialty group. Excellent fringe benefits with early partnership opportunity for board certified or board eligible physician. Call or write Richard N. Motley, clinic manager, The Hannibal Clinic, 711 Grand, Hannibal, MO 63401. 314/221-5250.

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Emergency Medicine in IL and MO — Full and part-time positions available in emergency departments and clinics for qualified physicians seeking lucrative employment opportunities. Outstanding remuneration and comprehensive malpractice insurance provided. For further information contact: Deborah Bergun, staffing specialist. National Emergency Services, Inc., 255 Executive Dr., Suite 104, Plainview, NY 11803 or call 1-800-645-4848 or 516/349-0100.

OB/GYN Family Practitioner Wanted — To join 14-physician multi-specialty group. Must be Board certified or Board eligible. Competitive salary and excellent fringe benefits. Send CV reply to Medical Arts Clinic, Inc., 301 W. Liberty, Farmington, MO 63640. Attention: Ronald G. Stevens, Administrator. Or call 314/756-6751.

Internist BC/BE with or without subspecialty to join five-physician single specialty group practice in S.W. Missouri serving a population of 1,000,000+. Excellent opportunity with competitive salary guaranteed plus incentive bonus. Malpractice and excellent benefits paid; opportunity for ownership. Pleasant recreational environment in the Ozarks. Please call or mail CV to Administrator, The Diagnostic Clinic, 3443 South National, Springfield, MO 65807. 417/883-3443.

Pediatrician, Radiologist, Orthopedic Surgeon, Family Practice, OB/GYN, General Internist & ENT — needed for two-hospital, historic river town of 20,000. Drawing area of approximately 60,000 with new 19,000 acre recreational lake. Unlimited potential. Contact: Carol Neil, Physician Recruitment, 623 Broadway, Hannibal, MO 63401 or call 314/221-3107.

Anesthesiologist needed full, part-time or locum tenens. Position available for BC/BE anesthesiologist in a 200-bed JCAH accredited hospital. Send CV to Chairman, Department of Anesthesiology, 3525 S. National, Suite 110, Springfield, MO 65807 or call 417/882-4605.

Opening for a Family Practice, Internist, OB/GYN. Suburb of St. Louis. Will consider salary, partnership or association. Please write with complete resume to File #2, c/o MSMA, P.O. Box 1028, Jefferson City, MO 65102.

Family practice & internists — BC/BE, needed to join multispecialty and single specialty practices. Substantial salary, plus full benefits. Full partnership available. City population 25,000. 160-bed JCAH approved hospital. Located one hour from Memphis, Tennessee on I-55. Send CV to: Marvin D. Hendrix, Clinic Administrator, P.O. Box 2311, Jonesboro, AR 72402.

Medical Director, Ambulatory Care — Board certified primary-care physician who will provide leadership for a system of four primary-care clinics in St. Louis. Management and/or public health expertise is desirable, and interest in these areas essential. The Director will be involved in planning and staffing the ambulatory care clinics and in coordination of care with the inpatient and Home Care Services at St. Louis Regional Medical Center. Contact John Kissel, M.D., Medical Director, Regional Medical Center, 5535 Delmar Blvd., St. Louis, MO 63112. 314/362-4906. An equal opportunity employer.

Physicians Wanted

Family medicine specialist. The Missouri Department of Health is seeking applicants for a family medicine specialist. This position will provide prenatal services, physician back-up to prenatal clinic programs, and deliveries. Annual salary range is $64,092-$73,776. Physician back-up will be provided by a board certified obstetrician working in the consortium. This position will be a part of the Southwest Missouri Health Care Consortium. This is a 14-county perinatal care delivery system. There are approximately 2,000 women per year at or below poverty delivering in this area. The inadequate prenatal care rate is currently at 20%. This position will be an integral part of the public health system of southwest Missouri. This family medicine specialist will also have the opportunity to work with a new physician residency program in family medicine. Merit system position which includes professional liability coverage. Minimum experience and training qualifications: certification by the American Board of Family Practice or the American Osteopathic Board of General Practice; and ability to secure a license to practice medicine in Missouri. This position is located in Springfield, Missouri (population 200,000). Resumes should be submitted to: Judy A. Hawkins, Chief, Office of Personnel and Training, Missouri Department of Health, PO Box 570, Jefferson City, MO 65102-0570. 314/751-6059.

Outstanding opportunity for Board Certified (or eligible) ophthalmologist. Guaranteed $100,000 first year salary plus benefits with opportunity to become partner and within a few years sole owner. Very successful well-balanced practice with considerable surgery. Completely equipped. Laser available. Beautiful new free-standing building close to progressive hospital complex in midwestern city of 75,000, metropolitan area 125,000. Excellent housing, education and cultural opportunities. Write to Box #3, c/o Missouri State Medical Association, P.O. Box 1028, 113 Madison, Jefferson City, MO 65102.

Obstetrician. The Missouri Department of Health is seeking applicants for an obstetric position. This position will provide high risk obstetric consultation to prenatal clinic patients from southwest Missouri and be responsible for deliveries. Annual salary range is $67,320-$77,016. This position will be a part of the Southwest Missouri Health Care Consortium. This is a 14-county perinatal care delivery system. There are approximately 2,000 women per year at or below poverty delivering in this area. This inadequate prenatal care rate is currently at 20%. This position will be an integral part of the public health system of southwest Missouri. This obstetrician will also have the opportunity to work with a new physician residence program in family medicine. Merit system position which includes professional liability coverage. Minimum experience and training qualifications: certification by the American Board of Obstetrics and Gynecology or by the American Osteopathic Board of Obstetrics and Gynecology; and ability to secure a license to practice in Missouri. This position is located in Springfield, Missouri (population 200,000). Resumes should be submitted to: Judy A. Hawkins, Chief, Office of Personnel and Training, Missouri Department of Health, PO Box 570, Jefferson City, MO 65102-0570. 314/751-6059.

Internist, BC/BE, U.S. Trained. Needed to join four-physician practice. $9,000 per month salary, possible bonus, plus full benefits. Full partnership available. Located one hour from Memphis, Tennessee, on I-55. Send CV to: Merrill J. Osborne, M.D., Tenth and Highland Streets, Blytheville, Arkansas 72315 or call 501/762-5360.

Family physician — Family physician needed to join GP in well-established rural southwest Missouri practice, 40 minutes from Springfield. No obstetrics; little evening call; no weekend work; excellent financial arrangements with guaranteed salary. AAA-rated schools; beautiful area. Please send CV to: Box #14, c/o *Missouri Medicine*, 113 Madison, Jefferson City, MO 65102.

Full-Time Private Practice Opportunities from Healthline Physician Services, an affiliate of St. Louis University Medical Center, for the following specialties: Board Eligible or Board Certified Internal Medicine, and Board Certified Family Practice, Pediatrics and OB-GYN. Positions include income guarantee and no capital investment. For more information contact: Barry Trautman, 3663 Lindell, St. Louis, MO 63108. 800/443-3901.

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Practices for Sale

Prominent OB/GYN practice in suburban Kansas City is seeking an individual or group to acquire the practice this year, as the owner prepares for retirement. Candidates should have an exemplary record in clinical practice, and the ability to finance an acquisition. Please reply in confidence to: Health Resources, Ltd., 816-587-0920.

Private Practice Opportunities: Family Practice and Internal Medicine, no cash outlay, attractive salary, excellent incentive compensation, liberal benefits including malpractice. Prospective for OB/GYN, Pediatrics, Psychiatry. Send C.V. to Don Hoit, Farris & Associates, Inc., 16216 Baxter Road, Suite 200, Chesterfield, MO 63017 (314) 532-4880.

Positions Wanted

Position wanted. Board Certified Cardiologist (internist) Invasive — Non Invasive, Missouri licensed, wishes to join group, hospital, industry, company, etc. Reply to Box No. 8, c/o MSMA, P.O. Box 1028, Jefferson City, MO 65102.

Office Space

Lake of the Ozarks medical clinic, heart of Osage Beach, well equipped, available immediately, excellent hospital connection. Call George Clipner, Ozark Realty, Osage Beach, MO 314/348-2781 or Eves. 314/365-5918.

Real Estate

Condominium for sale — 2 BR, 2 bath furnished, fully equipped kitchen. Beautiful lakeview with large deck, champagne deck of MBR, skylight, fireplace, 2 fans. Lovely decor and setup. Indoor, outdoor pool and tennis. Boating. Price — $89,500. Negotiable. Knolls Resort Condominiums, Osage Beach. Call: 913/491-1969.

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0.5-mg, 1-mg and 2-mg scored tablets,
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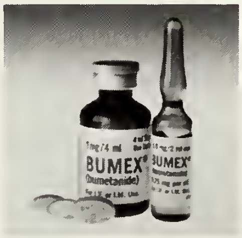
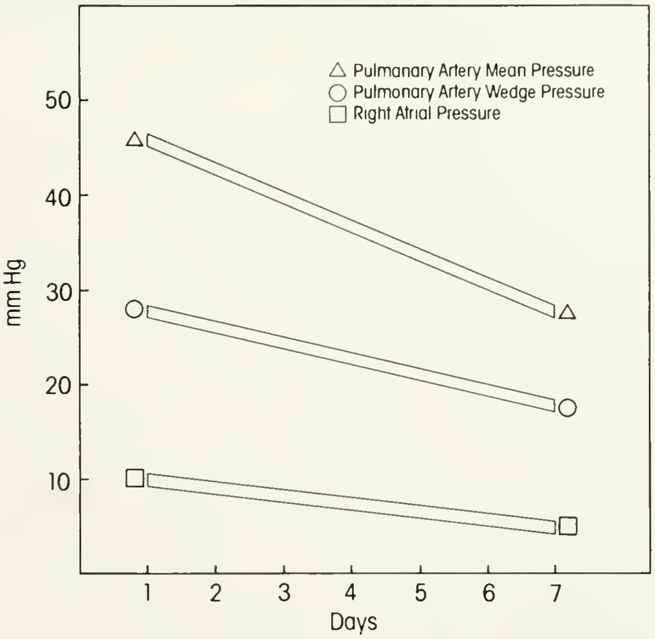
and 10-ml vials (0.25 mg/ml)

REDUCES FLUID OVERLOAD and eases the burden on the failing heart



Significantly improves hemodynamics



Ten patients with CHF showed marked hemodynamic improvement after seven days of BUMEX® (bumetanide/Roche) (mean values ± SE) Adapted from Olesen, *et al* [1]

References: **1.** Olesen KH, *et al* *Postgrad Med J 51*(Suppl 6) 54-63, 1975 **2.** Handler B, Dhingra RC, Rosen KM *J Clin Pharmacol 21* 706-711, Nov-Dec 1981 **3.** Brater DC, *et al* *Clin Pharmacol Ther 34* 207-213, Aug 1983 **4.** Brater DC, Fox WR, Chennavasin P *J Clin Pharmacol 21* 599-603, Nov-Dec 1981 **5.** Davies DL, *et al* *Clin Pharmacol Ther 15* 141-155, Feb 1974

BUMEX®
bumetanide/Roche
0.5-mg, 1-mg and 2-mg scored tablets,
2-ml ampuls, 2-ml, 4-ml and
10-ml vials (0.25 mg/ml)

BUMEX® (bumetanide/Roche)
Before prescribing, please consult complete product information, a summary of which follows:

> **WARNING: Bumex (bumetanide/Roche) is a potent diuretic which, if given in excessive amounts, can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dosage schedule have to be adjusted to the individual patient's needs. (See under DOSAGE AND ADMINISTRATION in complete product information.)**

INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephrotic syndrome
Almost equal diuretic response occurs after oral and parenteral administration of Bumex. If impaired gastrointestinal absorption is suspected or oral administration is not practical, Bumex should be given by the intramuscular or intravenous route
Successful treatment with Bumex following instances of allergic reactions to furosemide suggests a lack of cross-sensitivity
CONTRAINDICATIONS: Anuria. Hypersensitivity and in patients in hepatic coma or in states of severe electrolyte depletion. Although Bumex can be used to induce diuresis in renal insufficiency, any marked increase in blood urea nitrogen or creatinine, or the development of oliguria during therapy of patients with progressive renal disease, is an indication for discontinuation of treatment
WARNINGS: Dose should be adjusted to patient's needs. Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients
Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risks to the patients
In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma. Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance. Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients
In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity. Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved. The potential for ototoxicity increases with intravenous therapy, especially at high doses
Patients allergic to sulfonamides may show hypersensitivity to Bumex
PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary. Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets
Hyperuricemia may occur. Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency. Bumex may increase urinary calcium excretion
Possibility of effect on glucose metabolism exists. Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes
Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions
Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions
Drugs with nephrotoxic potential and bumetanide should not be administered simultaneously
Since lithium reduces renal clearance and adds a high risk of lithium toxicity, it should not be given with diuretics
Probenecid should not be administered concurrently with Bumex
Concurrent therapy with indomethacin not recommended
Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage
Interaction studies in humans have shown no effect on digoxin blood levels
Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity
Pregnancy: Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus
Bumetanide may be excreted in breast milk
Pediatric Use: Safety and effectiveness below age 18 not established
ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease)
Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting
Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection
Laboratory abnormalities reported are hyperuricemia, azotemia, hyperglycemia, increased serum creatinine, hypochloremia, hypokalemia, hyponatremia, and variations in CO_2 content, bicarbonate, phosphorus and calcium. Although manifestations of the pharmacologic action of Bumex, these conditions may become more pronounced by intensive therapy
Diuresis induced by Bumex may also rarely be accompanied by changes in LDH, total serum bilirubin, serum proteins, SGOT, SGPT, alkaline phosphatase, cholesterol, creatinine clearance, deviations in hemoglobin, prothrombin time, hematocrit, platelet counts and differential counts
Increases in urinary glucose and urinary protein have also been seen
DOSAGE AND ADMINISTRATION:
Oral Administration. The usual total daily dosage is 0.5 to 2.0 mg and in most patients is given as a single dose
Parenteral Administration. Administer to patients (IV or IM) with GI absorption problem or who cannot take oral. The usual initial dose is 0.5 to 1 mg given over 1 to 2 minutes. If insufficient response, a second or third dose may be given at 2 to 3 hour intervals up to a maximum of 10 mg a day
HOW SUPPLIED: *Tablets*, 0.5 mg (light green), 1 mg (yellow) and 2 mg (peach), bottles of 100 and 500, Prescription Paks of 30, Tel-E-Dose® cartons of 100. Imprint on tablets: 0.5 mg—ROCHE BUMEX 0.5, 1 mg—ROCHE BUMEX 1, 2 mg—ROCHE BUMEX 2
Ampuls, 2 ml, 0.25 mg/ml, boxes of ten
Vials, 2 ml, 4 ml and 10 ml, 0.25 mg/ml, boxes of ten.

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OVERLOAD

Reduce fluid volume and improve hemodynamics in CHF

Edema due to congestive heart failure often demands highly effective diuresis to reduce the fluid load on the failing heart. Bumex® (bumetanide/Roche) is the next generation in loop diuretic therapy for three powerful reasons. It moves out an unsurpassed volume of fluid and sodium, resulting in significant reductions in edema and right atrial and pulmonary artery wedge pressures.[1,2] It's almost completely absorbed through the GI tract, so it's easy to titrate.[3] And Bumex completes high-volume diuresis fast—within four hours at usual doses.[4,5] Your patients spend less time in diuresis, more time in normal activities.

Bumex has a good safety profile; however, as with all loop diuretics, Bumex, if given in excessive amounts, can lead to profound diuresis with water and electrolyte depletion, including hypokalemia. Serum electrolytes should be monitored periodically, especially in patients on low salt diets or those treated for prolonged periods or on high doses.

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First line loop diuretic therapy

Please see references and summary of product information on preceding page.
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